Studies in the Social Sciences

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Studies in the Social Sciences

"Technology and the Social Sciences"

This edition is dedicated to the memory of the victims and to honor the heroes responding to the terrorist assaults in the Washington area, New York City and Pennsylvania; September 11, 2001

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Prologue

Technology in the Social Sciences

Ah, Technology, that cure-all, that revolutionary tool to make the uneducated, unmotivated masses learn more quickly, more completely, and better. Our lives are surrounded by technology. There is scarcely an area of life that is not touched or totally controlled by technology. From computers to video streams to palm pilots and cell phones, the fabric of most of our lives is technology.

But there is no "theory" of technology. There is no guide to its proper use or set of rules to avoid its misuse- only abundant commentary on its myriad adaptations, successes or failures. In the social sciences, technology has provided a wealth of benefits, both realized and potential. It has presented numerous challenges to social science faculty, administrators, students and policy analysts. The presence of technology has created a technocratic elite and resultant social stratification.

The benefits of technology are real and potential. Whether from computers, video streams or other scientific technology, an exponential increase in information has promoted more and better social research, analysis, teaching and learning. From equipment advances in natural sciences, the DNA Sequencer, for example, come opportunities to analyze the social consequences of the products of discovery of the natural world. Technology has also created problems left with which social scientists must deal (gambling) and sometimes technology fixes problems social scientists have not or could not resolve (pharmaceuticals). So rapidly are discoveries made, that social scientists barely make sense of their consequences before new events occur.

Of course, huge advances in social research have also been made. User-friendly computer programs open data sets to hypotheses once testable only via obfuscating higher mathematics generally not well practiced by social scientists without pain. Hypotheses can now be tested on a hand held calculator.

Public offices in which social research is carried into policy are now technology driven. Through GIS information systems, computer modeling or artificial intelligence, policy analysis and program evaluation are vaulted to ever-higher degrees of sophistication. The way in which public officials carry out their duties has also changed via technology. Paper, the stock in trade of the administrator, has given way to magnetism, plastic and magical things

called transistors. The flow of work often involves no paper at all. The very workforce itself has also responded. Almost everyone in public offices has knowledge of technology, primarily computers, but also a wide variety of equipment such as digital cameras, environmental testing and treatment supplies and procedures. Last, but certainly not least, is the revolution in communications. Though privacy is a concern, the flow of discussion has expanded by leaps and bounds both formally and informally. Needless to say, technological change in the social sciences has created a whole new branch of law.

The tech revolution has created many challenges, for social science faculty, administrators and students. There seems to be an almost supernatural or mystical belief that the availability of technology produces better, more motivated students and that every faculty member who uses technology in instruction is somehow a better teacher. Not necessarily. Whether through the use of web-based classes, videos in the classroom, internet assignments or televised course distribution, all that technology *guarantees* is the opportunity to package old wine in new bottles. Or does technology produce new instructional wine? There is that huge database of information. Technology challenges the status quo. A gauntlet to faculty to use it properly, and to keep up with its advancements. Technology has allowed faculty to deliver courses far away to students who might otherwise get nothing. Some proponents say to avoid technology in instruction is to condemn oneself to mediocrity. Research is underway to see whether this is so. Technology will help us gather evidence. Let us use the tool to validate its mission.

Students are faced with the same challenge. Word processing has revolutionized the "term paper." Or has it? Note the wealth of papers with misspelled words, poor grammar and punctuation and no or poorly documented resources. But there is that huge database of information. Does that motivate them to critically think or analyze? Does technology advance their ability to make correct judgments? Does it make them more mature? The jury is not in quite yet. High schools students and faculty are also similarly challenged. Should a high school geography class have a GIS system? A wide variety of informational technologies are available; and, students too feel the pressure to conform to the techno norm of having the best.

Administrators feel the budgetary pinch universally across all disciplines. Every clamor for more technology forces examination of a request not made years ago. It is perhaps more difficult for social sciences to justify these requests, as opposed to natural sciences or business who, for so long have built their educational paradigms on the acquisition of scientifically accumulated

"data." However, every campus now has an IT department complete with staff, a multi-million dollar inventory and budget. Every dollar spent here is a dollar not spent on salaries, supplies, facilities, grounds or other equally deserving programs. And, of course, once a line of equipment is purchased, it generally has to be upgraded. Staff needs to be trained. Policies regarding its uses must be developed. Technology is self-perpetuating. Job security. No tenure required.

Technology is not a panacea. We, in social sciences, like other disciplines, are captured by its intrigue, wowed by its performance and indebted to its results. We must take the bad with the good. And, if we can only discover the good before it becomes obsolete, and make wise and judicious use of it, we will have mastered one of humankind's greatest gifts.

Barbara L. Neuby
Kennesaw State University
September 11, 2001.

Advertising Communications Technology on Television: Selling a Paradigm - A Symptom of Our Culture

Jenny Kerr

State University of West Georgia

Abstract

Though much research has been done on the psychological and social effects of advertising on individuals, few specific cultural analyses have been conducted on any one particular advertisement or set of advertisements in order to comprehend how ads impact us in various ways. This article focuses on the phenomenon of television advertisements promoting the use of communication technology, specifically looking at the new controversial advertisement created by *Alcatel.com* involving the late Reverend Dr. Martin Luther King, Jr. Using a style of cultural analysis proposed by Marjorie Garber (2000) that views distinct aspects of culture that repeat or stand out (*symptoms*) as indicative of large-scale social change (or a *syndrome*) and evidence of culture in-the-making; we shall see the beginning of the shift toward a technological mindset. Communication technology (cell phones, Internet, E-mail, etc.), in both product and practice, infiltrates our consciousness and assimilates our being through advertising as it becomes an answer to all our needs and desires.

Advertising Communication Technology on Television: Selling a Paradigm - A Symptom of Our Culture

The move toward a reliance and increased usage of technology has been in process since the turn of the century, beginning with the industrial revolution and even earlier if we consider tool making and invention technologies (Tierney, 1993). Similarly, it is widely known and discussed how television advertisements –just as this technological mentality- pervades our culture and invades our consciousness. For instance, there is much evidence that advertising adversely affects the body image and self-esteem of teen-aged youth (Berger, 2000; Gergen, 1991; Salomon, 1979/1994 and much more). Yet the effects are tremendous when combining these two phenomena, apparent in the recent bombardment of visual and auditory stimuli influencing us to adopt technological practices and invest in the services of mass communications and education technology via Internet, cellular phones, web-sites, etc. If we

look more closely at individual advertisements for technological products and services, we see companies are actually selling values in an entire paradigm, a set of needs linked to the very idea of technology, itself, as we move into the future of our dependence and collaboration with technology in this new era of culture.

In her book, *Symptoms of Culture*, Marjorie Garber (2000) looks at specific outstanding cultural phenomenon and attempts to find, through various connections, how it speaks to culture, in general. Her analysis views distinct aspects of culture that repeat or stand out (*symptoms*) as indicative of large-scale social change (or a *syndrome*) and evidence of culture in the making. Garber, a Harvard professor of English, considers these "symptoms" to be indicative of broader cultural functions relative to the manner a psychological or physiological symptom would indicate a greater issue, or "syndrome", for an individual. In defining "symptoms of culture", Garber claims: "They are cultural practices and cultural signs, evidence of the way we produce 'culture' as something to be read" (2000, p.14).

We currently see an increase in the amount of television commercials advertising communication and networking technology. Though this may seem to be simply doing what other commercials do... sell; further analysis reveals differences in these technological ads and others which focus on specific household items, entertainment equipment, clothing, cosmetics, or food. All commercials create some form of image and a desire to either be like that image or avoid it, yet technological advertisements seem to move beyond this reflexive response to a deeper level.

A Controversial Commercial

"... I say to you today, my friends, so even though we face the difficulties of today and tomorrow, I still have a dream. It is a dream deeply rooted in the American dream" (King, 1983/1987, 95).

Recently, a commercial aired on television with a technologically modified presentation of Reverend Dr. Martin Luther King Jr.'s famous "I Have a Dream" speech. Dr. King is first depicted giving his speech, completely alone, in front of the Washington Monument. Perhaps he is rehearsing his speech or perhaps it is simply that something necessary is missing... Whatever the intended message, it is left up to the assumption of the viewers. This is quite an interesting phenomenon, since the "source" (an essential element of persuasion, see: Sampson, 1991, p. 182) or deliverer of this message is deceased and has been long before the company which he is "promoting" was ever created or conceived. This is not a new concept, for Fred Astaire

can still sell a vacuum cleaner, and a technologically enhanced Nat King Cole can sing with his daughter. However, now, the purpose of using these images is more obscure.

The advertisement was for *Alcatel*, a company based in France, attempting to extend their global market to the U.S. The promoted message of the advertisement? "Before you can inspire - you must first connect." and *Alcatel* has "The power to bring people together...". There is actually no mention of what Alcatel produces. The emphasis is more on services, rather than products, provided to society as a whole. In other words, *Alcatel* uses the image of Dr. King to inspire us and then suggests that if we aspire to such greatness, we must elicit the help of technology, particularly brought to us via the means of such companies as *Alcatel*. The American Dream is perhaps to overcome all challenges and to be a successful individual. Yet, *Alcatel* also implies the inadequacy of an individual to do this alone, a common technique of advertisements: to create a void which the product can fill (Kitalong, 2000). These commercials suggest communication technology as the ambiguous answer to our inadequacies to inspire, to motivate, to create social change and direction – all things previously thought to be within the power of each and every American and perhaps every human being on the planet. So, as seen in most all commercials, a need is created, but the paradox is that the needs are now not filled with a single product, but a whole mentality... the technological mindset, the faith in technology to do all things.

The King ad is the first in a series created by *Alcatel*, which includes monumental speeches, such as that of late baseball legend, Lou Gerig. Critics of *Alcatel*'s advertisements focus on the sheer offensiveness of exploiting such memorable figures in history; yet, the intention of the company was to honor these individuals and make them more known to the younger generations (Ruskin, 2001). Upon further inspection of their web-site, *Alcatel*.com is completely targeted toward buying stock in the multi-million-dollar company, not toward inquiry about products or services, nor toward offering any commentaries or feedback about *Alcatel* or communicating with them in any such way. The only mention of services on the web-site lay amidst a host of invitations to check stock options: "*Alcatel* builds next generation networks, delivering integrated end-to-end voice and data networking solutions to established and new carriers, as well as enterprises and consumers worldwide. With 130,000 employees and sales of EURO 31 billion in 2000, *Alcatel* operates in more than 130 countries." (All rights reserved. Copyright 2001 Compagnie Financiere *Alcatel*, Paris, France.) Thus, the success of *Alcatel* to

sell us what we need is made obvious, though what we need is not so obvious in *Alcatel*'s statement. We get a sense of not only the grandiosity of technology, but also the mystery of it as well. In this we place our faith.

> *_"The tendency of most is to adopt a view that is so ambiguous that it will include everything and so popular that it will include everybody" (King, 1983/1987, 24).*

Technological services and products are estimated to account for over one-half of the commercials aired on television this past year, as high-tech internet companies increase advertisements through other sources (O' Hanlon, Oct. 2000). Though *Computer Reseller News* (et. al.) says: "Those messages are clear: 1. Know us. 2. Love us. 3. Buy our stock. 4. Use our products. 5. Work for us," there is more involved here than simply promoting business. There are also conflicting reports that internet companies are cutting back on their television advertising for the lack of profits (Friedman, Aug. 2000). The timing of these reports are incongruent and, thus, I would suggest that the conflict between them is suggestive of a cultural symptom. There are so many connections technology can make, so many things it can do for us, that it seems to be the answer to all our needs and desires. Commercials promoting the technological paradigm do not address the negative effects of technology, nor do they even allow us to make informed decisions about our involvement in the use of technology.

The implication is that technology is a prevalent new paradigm, not only economically, but politically, individually and socially, as well (Martin, Gutman, & Hutton, 1988; Mesthene, 1970; Postman, 1992; & Shenk, 1997). Technology suggests a value system to our culture by providing our society with *meaning* and a purpose (to advance and develop), not just substitutes for solutions (Gibbs, 1999). Therefore, where products fail to give us what we humans need, the technological future provides us with tangible results. This is why we place our interminable trust in technology with little required explanation. Where we have become discontent with the hypocrisy of commercialism, government, science, and religion, technology offers a new world of possibilities, of hope, of fulfillment. In the past, advertising has been in this same situation, creating value systems and cultural paradigms since the late 1800's, though with increasing complexity due to the incorporation of technology (Marconi, 2001; De Mooij, 1998; Salomon, 1979/1994; & Schreiber, 2001). Thus, technology holds a particularly unique place within the field of advertising. Earlier this century, ads more clearly defined what technology could do and how it operates. The fast pace of advertisements

and portrayal of the future is now so confusing and disorienting that we are unsure of what commercials are actually selling.

Since the 1950's, Americans have fully believed in the power of technology. It is our socially collective dreams and fantasies that are reflected in advertising and our belief in science and technology, combined with these fantasies, makes advertising so powerfully persuasive. However, we are beings who seek truth and search for answers. Though communication and information technology provide a means to finding answers, an undoubted belief in any approach makes it ominous and fallible (Kitalong, 2000). Combining the supernatural, representative in the "imaginary and symbolic other" (according to Bacher interpreting Jaques Lacan, 1993), with technology and science can create a tension in discourse, reflective of and perhaps contributing to the anxiety and feelings of discontent made so apparent in the prevalent violence in our present-day culture.

> *"Nothing in our glittering technology can raise man to new heights, because material growth has been made an end in itself - in the absence of moral purpose, man himself becomes smaller as the works of man become bigger. ...The sense of participation is lost, the feeling that ordinary individuals influence important decisions vanishes, and man becomes separated & diminished" (King, 1983/1987, 19).*

There are some who are suspicious of the illusion of technological solutions, the authority and control technology has over our lives, and the increasing fragmentation of our culture as a result of technological influence (Baudrillard, 1994; Gergen, 1991; Postman, 1992; and Shenk, 1997). Yet, there is also a paradoxical faith in technology and an increased reliance on it in our culture (Mesthene, 1970 and Tierney, 1993). There is evident in our increasingly globalized American society a criticism and support of technology, reflecting the dual nature of the paradigm. Technology can be used as a tool for almost any means. Technology can be a simultaneously destructive and creative force in our culture. In fact, any human endeavor, such as technology, can either cure or kill us.

Havener (2000-2001) describes this phenomenon in terms of social systems. Any paradigm can be an open or closed system. He asks us to consider the meaning and purpose of systematic transactions or processes between parties (or between subjects via a master signifier, according to Bracher, et. al) and informs us that "in an open system, the critical partners are aware of their interdependence and...it recognizes both parties," but closed

systems remain unaware, become static, and finally- obsolete (21, et. al). Open systems are integrative and closed systems are exclusive.

Consumer or commercialistic culture is mostly concerned with cost/benefit or profit to the advertisers and marketing companies (Marconi, 2001 & Schreiber, 2001), with few exceptions of companies legitimately concerned for the benefit of the consumer (Peppers & Rogers,1993). In other words, the consumer culture of the advertising age is a closed system, bound to come to a close as it is seen more and more to be less fulfilling.

> *"We are prone to judge success by the index of our salaries or the size of our automobiles, rather than by the quality of our service and relationship to humanity." (King, 1983/1987, 21).*
>
> *"The ultimate measure of a man is not where he stands in moments of comfort and convenience, but where he stands at times of challenge and controversy" (24, King, et. al.).*

Thus, the commodities we once thought could fulfill our deepest desires are increasingly seen as inadequate, though we may automatically respond to them (Berger, 2000). Our culture is becoming more and more discontent with the answers provided by advertising. "In our loquacious age, saturated with political slogans and advertisements, (listening) is liable to be a difficult enterprise..." (Dallmore, 1984, 191). In fact, we are beginning to tune them out, with the help of technology!

One new device allows for television viewers to omit commercials from the programs they are viewing (Doyle, 1992). So, though technology remains commercial at present, it is possible that the technological culture could replace our advertising culture in an effort for society to find more rewarding and meaningful endeavors, as we grow within a more global realm.

Baudrillard, philosopher and writer of modern technological issues, states: "currently, the most interesting aspect of advertising is its disappearance, its dilution as a specific form, or even as a medium" (1994, p.90). Heidegger says: "we are questioning technology in order to bring to light our relationship to its essence" (1977, p.23). So, it seems that technological advertisements point to a cultural phenomenon of desire, as all advertisements point to desire (Bracher, 1993). Referencing Emile Durkheim's premise: "to diminish international hostilities" we should "enhance a broader sense of community" and "move to a global ideology," R.P. Cuzzort (1989) suggests that in order to do this, "people would need to find a way to create collective representations of a global nature that could be as effective as those of a nationalistic nature" (p.109). Such a collective representation appeared in *Alcatel*'s ad - Martin

Luther King, a deep social symbol of freedom and human rights. The American dream is made possible through technology.

This and other such advertisements specifically focusing on communication technology are unique in their presentation of a human need to help, to be social, to enact social change and participate in the grand scale of globalization (Farley, 1996). The themes of technological advertisements of educational technology (computers, search engines), communications (cell-phones, e-mail, translation & voice-recognition software), and identity (system controls, electronic identity protection) seem to point to a desire for human interconnection. This is obvious when we consider the slogans of various companies in their television commercials: "Connecting People" (*Minolta*), "What do you have to say?" (*Cingular Wireless*), and "The power to bring people together..." (*Alcatel*). In effect, *Alcatel*, like other companies marketing technological products for communication, education, and social interaction are selling us a community and a new society within which we can make a difference and find new possibilities. Therefore, these commercials use images, representations, symbols, and signifiers that are culturally loaded with meaning (such as the "V for Victory" sign of *Verizon Wireless*, reflecting the revolutionary freedom of the 1960's). With slogans, such as: "People everywhere just gotta' be free!" (*Verizon Wireless*), ads currently speak to the desire for a new social and cultural revolution.

Signifying the New Paradigm

This is the transition from the Advertising Age to the Technological Era. Therefore, these commercials target a majority of our population to increase interest in not only the products, but also an entire mentality, which leads us into a new paradigm. Perhaps this paradigm shift is a direct result of human population growth and globalization: allowing less room on the planet for independence, the project of nationalization and attempts at economic self-sufficiency. Thus, this shift could be compensating for the isolation and separation experienced by many within our society, due to our past cultural emphases. So, as advertising and technological paradigms overlap, we may seek some sort of stability within the confusion of images and obscurity of messages. According to Bracher (1993), we attempt to find this grounding and connection through identification and current commercials give us cultural and historical figures with which many of us desire identification. "Identifications that can prompt us to feel and act in certain ways... can also re-form or alter our foundational, structural identifications and thus change our subjectivity and our behavior as well" (Bracher, 22, et. al).

Though the persuasion of our culture into a post-modern technological world began almost 100 years ago, the full realm of possibilities of this era have only just begun.

In conclusion, technology both helps create and rallies to fulfill our desires for interpersonal human connection, intimacy, knowledge, protection & safety, speed & efficiency, and value (of life, as perception, as reflected in objects, and of time). For some, technology is the means to live and for others it is a new hope for the future and impetus for change.

There is, however, the possibility that technology -though increasing in availability to the masses- will be a provision for the elite. If this becomes the case, then will the distinction between the advertising and technological cultures increase or decrease? Are we moving away from a consumer culture or delving so deep into it that we are even selling ourselves in today's mass-market economy? Evidence for this is on both a personal level (job resumes and websites) and on a global political and economic level (through the stock market). We could just move to selling human beings and entire companies instead of individual products and items. Yet, the increase in technology can not be denied. The question is: "what is next?".

Society's demand dictates what is advertised and sold to us and today we seem to be moving away from actual products and toward more services and procedure... access to information, communication, abilities, international relations, connectivity, speed and efficiency, convenience, leisure, activity, etc.

So, technology offers itself as: "The wave of the future" and attempts to provide a new answer to our desires. As we explore our collective transitioning, we may find that the cultural symptom of technological advertising points to more distinct aspects of human existence, as our culture is ever-changing... so are the signifiers and symptoms. We can only hypothesize what technology heralds is upon the horizon through analyzing various means and looking at specific paradigmatic shifts. It seems, at the moment, that in the cultural symptom of technological ads, we see much less objectification of the other, but images and symbols of an objectified subject. In other words, technological advertisements address deeper needs than superficial desires than product advertisements. They are representative of attainable qualities to which we aspire in life, attributes which depend on us -as individuals- to fulfill (closeness, intimacy, security, purpose, and value), rather than idealized things we wish to acquire (a happy home, a wonderful family, a good job, an exceptional lover, an entertaining social life). The ads' perspectives have changed, but the desires are indicative of the Western and American values

inherent to our culture: independence, autonomy, and individual freedom. Hence, King's words ring as true today as ever before.... "It is a dream deeply rooted in the American dream" (p.95, et. al.).

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E-Invasion of Privacy

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Introduction

In the public sector there are many issues that a manager may have to face. One of those issues is examined in the case of "Ann's Dilemma," a fictional personnel scenario depicted in Robert Golenbiewski's, *Cases in Public Management.* In this story, Ann Czaplicki had a degree in English Literature, which did not exactly put her in high demand. Through a family friend, Harry Goetz, Ann was given a job at the state Health Department. After lots of hard work, Ann is able to move her way up in the organization. One afternoon Ann is asked to see Goetz before she leaves to go home. Goetz quickly asks Ann for a favor. Goetz tells Ann of his suspicions of one employee's unethical activity and asks for Ann's help. Goetz wants Ann to not only watch the employee closely, but then goes even farther when he asks Ann to go through the drawers of the employee's desk to find some incriminating evidence. After reminding Ann that he gave her the job, Goetz seems to feel that Ann owes him this favor. "I appreciate what you have done for me Mr. Goetz," Ann responds, "but I still feel a little funny about going through someone's desk." Ann then asks Mr. Goetz to give her the night to make the decision of whether or not to go through the desk (Golembiewski, et. al, 60-62).

Ann is faced with a very important decision at her job. This decision raises into question many issues ranging from ethical actions in the public sector to the failure to follow a manager's orders. One of the most important issues that it raises, however, is the right of privacy in the public sector. Does Ann have the right to go the desk of this employee? Is this a violation of the right of privacy?

To examine these questions it is important to examine many aspects of the right of privacy. This includes, first, the many areas in which the right of privacy may be involved. Second, the policies that have been enacted by Congress with regards to the right of privacy should be discussed. Third, the many court cases that have come about as a result of these policies and the right of privacy must be analyzed. Last, the precedents established through

legislation and the courts with regards to the right of privacy in both the public and private sector will be examined.

Legislative and Legal Issues

Sometimes the right of privacy is merely thought of as the right to do what we want in our own homes, but privacy issues may extend into realms much farther and more complicated than this. In the case of "Ann's Dilemma," privacy might involve the worker's right to keep the employer from going through his or her desk. Samoriski, Huffman, and Trauth give us "four branches of privacy invasion. These divisions...include publication of true but embarrassing facts, false light or defamation, appropriation, and intrusion into physical solitude or seclusion." Don Cozzetto makes it clearer when he states, "Historically, privacy and the public employment involved five major areas – recruitment and promotion, life style, personal habits, workplace searches, and drug testing" (Cozzetto A, 21).

One of the reasons that privacy has become a hotter issue is due to the increase in the amount of technology. "A wide array of new technological devices are available to employers to monitor employee activities. These devices include the accounting and monitoring of phones calls, oversight of the efficiency and accuracy of computer operations, computerized surveillance of vehicle usage, tracking of employee location, auditing of employees' computer files, tapping of email transfers, and observation of the workplace by video camcorders" (Cozzetto B, 519).

Technology also opens the door to a wide variety of areas that employees are calling private. Some of these areas include electronic mail, electronic bulletin boards, computer hard drives, telephone conversations, cell phone conversations as well as a variety of other issues (Cozzetto A, 21-24). It also gives employees the ability to be able to monitor management (*CQ Researcher*, 1024). With small video recorders or other equipment, employees may be able to become more effective whistleblowers with more sufficient evidence captured with this technology (*CQ Researcher*, 1024). Of course there are other issues involving privacy that do not have to do with technology, such as medical records and personal records such as credit history, criminal record, or mental health record.

Congress has tried on numerous attempts to address the myriad of issues that are involved with the right of privacy. One of the problems in the public sector is the attempt to maintain a balance of individual privacy while still making government information available to the public under such laws as the Freedom of Information Act. One of the first acts to be passed in regards

to privacy was the Privacy Act of 1974 (Cozzetto A, 28). The Privacy Act of 1974 includes "restrictions on gathering information on individuals and it indicates that any information used in an adverse personnel action shall to the extent practicable, be obtained directly from the individual (Cozzetto A, 28). Another closely related law, the Americans with Disabilities Act of 1990, "prevents medical inquiries as a condition to an employment offer" (Cozzetto A, 28).

With the growth of technology, Congress has also tried to address new issues in privacy. Congress faces a tough challenge because "advances in workplace technology render existing safeguards obsolete before new can be erected in their place" (*CQ Researcher*, 1024). Two of the most major attempts by Congress to address these issues have been the Federal Wiretap Act and the Electronic Communications Privacy Act of 1986 (Cozzetto B, 517, 520).

The Federal Wiretap Act "prohibits both private and public employers from intercepting and recording the 'wire communications' of employees" (Cozzetto B, 517). The first thing that is distinguished in this act though, is that it is the content of the conversations that are protected (Cozzetto B, 517). An employer may monitor the use of the phone to determine if an employee is using a phone for an unauthorized call (Cozetto, 23). Also, an employer may record or monitor calls if the employees have given prior consent (Cozetto, 23).

One of the most controversial and vague pieces of privacy legislation passed by Congress was the Electronic Communications Privacy Act (ECPA) of 1986. The ECPA "was passed to amend Title III of the Omnibus Crime Control and Safe Streets Act of 1968 (Samoriski, 67). The purpose of Title III was to help limit the power of government to be able to monitor or intercept "telephone communications" (Samoriski, 67). The purpose of the ECPA was to help amend an outdated piece of legislation (Rodriguez, 1448). "Of the changes implemented by the ECPA, perhaps the most significant was the insertion of the term 'electronic communication' wherever Title III previously only protected wire and oral communications" (Rodriguez, 1448). Many of the previsions of the ECPA were enacted to help prevent unauthorized persons from gaining access to information that was not intended to be public (Rodriguez, 1449). One of the many debates that arose from the passage of the ECPA was the issue of whether or not electronic mail would be covered by the provisions of the Act (Rodriguez, 1449). "Elements of the ECPA legislative history provide some support for the position that Congress did not intend to inhibit employers from reviewing

employee-generated E-mail files. Moreover, much of the testimony during the Senate hearing on the proposed legislation reflected an overriding concern for company, rather than individual employee privacy" (Cozzetto B, 520). The ECPA does draw one distinction with regards to e-mail privacy (Cozzetto B, 521). "The ECPA allows far more latitude if stored data is retrieved by the employer rather than data that is intercepted" (Cozzetto B, 521). Even though this is stated, it still does not delineate a clear policy of how email privacy will be handled. This, along with other issues, would be settled in many of the cases that would come before the courts.

The courts in the United States are addressing many of these privacy issues everyday as a result of the growth in technology as well as the enactment of new legislation. One case that closely relates the dilemma presented in the story of Ann is that of *Ortega v. O'Connor*. In this case Dr. Magno Ortega had been asked to take an administrative leave due to action taken against him for sexual harassment and inappropriate disciplinary action against a resident (480 U.S. 709, 1987). "While he was on administrative leave pending investigation of the charges, hospital officials, allegedly in order to inventory and secure state property, searched his office and seized personal items from his desk and file cabinets that were used in administrative proceedings resulting in his discharge" (480 U.S. 709, 1987). In its decision, "the Court notes that 'Individuals do not lose Fourth Amendment rights merely because they work for the government instead of a private employer....Given the great variety of work environments in the public sector, the question of whether an employee has reasonable expectation of privacy must be addressed on a case by case basis'" (Samoriski, 64). The Court ultimately made the decision that the employer did have the right to go through the desk of the employee without violating a right of privacy (480 U.S. 709, 1987).

In another case, *Smyth v. The Pillsbury Company*, the issue of privacy involving electronic mail would come to the forefront in the state of Pennsylvania (914 F. Supp. 97). In this case, the Pillsbury Company "maintained an electronic communication system in order to promote internal corporate communications between its employees" (914 F. Supp. 97). "Pillsbury assured its employees, including the plaintiff (Smyth), that e-mail communications could not be intercepted and used...against its employees as grounds for termination or reprimand" (914 F. Supp. 97). After having a correspondence with a superior from home, Smyth's e-mails were intercepted by the Pillsbury Company (914 F. Supp. 97). Smyth was then fired for "transmitting what it deemed to be inappropriate and unprofessional comments" (914 F. Supp. 97). Smyth claimed "that his termination was in

violation of 'public policy which precludes an employer from terminating an employee in violation of the employee's right to privacy as embodied in Pennsylvania common law'" (914 F. Supp. 97). Even with these claims, however, the court did not rule in favor of Smyth saying, "We do not find a reasonable expectation of privacy in e-mail communications voluntarily made by an employee to his supervisor over the company e-mail system...Once the plaintiff (Smyth) communicated the alleged unprofessional comments to a second person (his supervisor) over an e-mail system which was apparently utilized by the entire company, any reasonable expectation of privacy was lost" (914 F. Supp. 97).

The case of "*Steve Jackson Games Incorporated, et al. v. United States Secret Service, United States of America et al.* (1993) broke new legal ground by becoming the first case in which the seizure of electronic communications on a bulletin board was found to be illegal under the Electronic Communications Act of 1986" (Samoriski, 70). The Secret Service believed that an employee of Steve Jackson Games was involved in the theft of materials from BellSouth (Samoriski, 70). After obtaining a search warrant, the Secret Service confiscated three computers from Steve Jackson Games, one of which was used to run an electronic bulletin board (Samoriski, 70). Steve Jackson Games sued under the ECPA and was awarded $50,000 for what Judge Sparks said "violated the safeguards contained in the ECPA designed to protect computer systems and their data from unwarranted intrusion" (Samoriski, 71).

There have been many other cases involving privacy as well. In *Katz v. United States*, the "issue was whether an electronic bug placed by the government on a public telephone booth was a violation of the Fourth Amendment" (Cozzetto B, 517). The government made claim that the phone booth was not protected due to the fact that it was located in a public place (Cozzetto B, 517). The court noted that it was not places that were protected by the Fourth Amendment, but individuals (Cozzetto B, 517). Other cases include the "1994 Supreme Court decision, *Department of Defense v. Federal Labor Relations Authority*, which upheld the interests of employees in seeing to it that their home addresses were not given out to federal agencies" (Cozzetto B, 515). In the case of *Bourke v. Nissan Motor Corporation*, two females challenged their release from Nissan based on privacy rights (Cozzetto B, 521). When a supervisor heard that he might have been the target of some negative comments, he overrode the e-mail passwords of the two women and found evidence to support the claims (Cozzetto B, 521). The court

ruled in favor of the employer stating that there was no violation of the right of privacy (Cozzetto B, 521).

With all of these cases facing the issue of privacy it can be hard for one to ascertain what accepted norms of privacy should be. As mentioned before, the major issue is employee privacy rights versus the employer's need to monitor the workplace for unaccepted behavior. Cozzetto and Pedeliski suggest a three-prong test established in such cases such as *Griggs v. Duke Power*, *Kelly v. Johnson*, and *Padula v. Webster* (Cozzetto A, 21). The three-prong test requires that searches "must be reasonable, the employer must have compelling interest in conducting them, and the incursions must be job related" (Cozzetto A, 21). An employer would satisfy the compelling interest portion of the test if the search were being conducted to protect employees from items such as sexual harassment, racism, or any other factor that may lead to a hostile workplace (Cozzetto A, 22). Also an employer would meet the compelling interest test if the employer was trying to protect its own interests such as "reducing theft to preventing copyright infringement to prohibiting transmission of pornographic materials via office communications systems" (Cozzetto A, 22). To simplify, Rodriguez says, "As a general rule, to win an invasion of privacy suit against any type of employer, an employee must first be able to prove an expectation of privacy that outweighs the employer's reasons for monitoring." One thing that is clear is that an employer will be given preference "if the workplace continues to have signs of dysfunctional and destructive behaviors" (Cozzetto B, 524).

A different test used by some military courts takes a different approach when it comes to electronic mail (Samoriski, 73). This two-pronged test says "that a person asserting a right to privacy under the Fourth Amendment; 1. Must exhibit an actual (subjective) expectation of privacy, and 2. The individual's subjective expectation of privacy must be one that society is prepared to recognize as reasonable (objective)" (Samoriski, 73).

With all of these difficulties, it is hard to imagine there is any way to maintain a balance in the workplace. Many different experts suggest different things for agencies and companies to try when dealing with the issue of privacy. Cozzetto and Pedeliski suggests "a balance must be struck between employer and employee interests in privacy, a balance that, in the end, allows for the surveillance under certain limited conditions, stressing less intrusive approaches." "Management seems receptive to the idea that curbing workplace surveillance 'allows organizational change to occur more easily'" (*CQ Researcher*, 1027). Moroney, a member of the Electronic Mail Association, says, "We encourage companies to develop privacy policies

for all forms of communications and to tell employees what they are" (*CQ Researcher*, 1027). With regards to privacy rights and electronic mail, most say that the best approach for an employer to take is to notify employees in advance that all electronic mail messages have the potential to be monitored (Cozzetto B, 522). Cozzetto and Pedeliski also suggest a twelve-point model, which includes different suggestions on how employers should handle privacy in the public sector (Cozzetto A, 29-30).

Conclusions

It seems that Congress is not reacting quickly enough to all of the issues that are developing as a result of new technology. One thing that is not clear is what differentiates postal mail from electronic mail in regards to privacy. As technologies develop, more pressure will be placed on not only Congress, but also the courts to determine what correct policy should be. Hopefully, there will come a time when Congress becomes proactive rather than reactive. Until this time, it will be up to agencies and companies to maintain policies that not only satisfy employees, but also keep the organization running smoothly.

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Geographic Information Technologies and Their Potentially Erosive Effects on Personal Privacy

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Abstract

The ability of individuals and organizations to compromise the personal privacy of others through the use of geo-spatial technologies, such as remote sensing and geographic information systems (GIS), is increasing at a rapid pace. Commercial remote sensing satellites now have a resolution of 1 meter and sub-meter systems are being developed. Using the capabilities provided by inexpensive GIS software, it has also become easy to attach personal identifiers (such as addresses and telephone numbers) to symbols on maps. During the past several years, an explosive growth in the number of cellular telephones has spawned a new and largely unregulated industry, called location-based services, that first establishes the current location of cell phone users and then provides them with location and context-specific information. There is a significant potential to collect, synthesize and disseminate information about the personal spatial behavior and revealed preferences of individuals who use such services. The effects of these geo-spatial technologies on individual privacy have not been widely discussed, even though their potential threat is substantial.

Introduction

Though privacy is widely viewed as a basic human right (Diffie and Landau, 1998), the degree of privacy afforded to an individual varies across space, among cultures and over time. Privacy in a military barracks, for example, is different than privacy in a college dormitory, or a single-family detached dwelling unit. Expectations of privacy are also affected significantly by technology (Agre and Rotenberg, 1998). Most people are aware that telephone wiretaps are now widely prohibited, but at the dawn of the telephonic era, wiretapping was not specifically forbidden by legislation (Dash, Schwartz and Knowlton, 1959; Diffie and Landau, 1998). Recently, attention has shifted to the practices of businesses that acquire information about the on-line behavior of web-surfers (Edelstein, 2001; Waters, 2000). In some cases this information is protected as a strategic asset, but in others it may be either sold or transferred as a consequence of "dot-com" business

failures and acquisitions. The past decade has also seen a steep increase in identity theft incidents and crimes related to the use of information technologies.

The concern generated by reports of these privacy-violating activities has been revealed in proposed and enacted legislation (Bennett, 1998) and the establishment of organizations focused on the preservation of privacy rights (EPIC, 2001; PI, 2001). What has not been widely discussed, either by these groups in particular or social scientists in general, however, is the way that current (and planned) geographic information technologies can be used for individual-level surveillance. Some researchers have begun to engage this issue, but with rare exceptions (Dobson, 1998; 2000) their discussions about privacy require the reader to make inductive leaps or fail to address the individual-level effects of the technologies (Curry, 1997, 1998; Goss, 1995). The purpose of this paper is to sketch out the role that recent developments in "geo-spatial" technologies, such as remote sensing and geographic information systems (GIS), may play in future erosions of privacy. A particular focus is placed on the increasing resolution of remote sensing systems, and the processes through which existing geographic information can be acquired, processed, and cross-referenced with other on-line information sources to reveal individual-level characteristics.

Remote Sensing – An Unblinking Eye in the Sky

Before the 1970s, remote sensing information, in the form of electromagnetic radiation reflected from objects in the environment, was normally collected in photographic form. Early remote sensing satellites were designed for strategic surveillance purposes and used photography to record map-like imagery that was retrieved from space (Jensen, 2000). Because of the great expense required to place precision-camera-bearing satellites into orbit, running out of film during a time of national crisis was problematic. Digital scanning technology obviated such problems by substituting scanned pixels and telemetry for photographic film. In essence, bits were substituted for atoms (Negroponte, 1995).

The first civil remote sensing system, the Earth Resources Technology Satellite (re-named Landsat), became operational in 1972 with a relatively crude ground resolution of approximately 79 meters. This means that a Landsat image would be constructed from thousands of 79 meter cells (called picture elements or pixels); for the purpose of comparison, one Landsat pixel is larger than an Olympic-sized (50m) swimming pool. Though such coarse-resolution images did not appear to pose a threat to individual-level

privacy, the image classification and processing methods that were developed to wrest every possible bit of information from them continue to be applicable today (Jensen, 1996). As technology progressed, the resolution of civil remote sensing satellites increased. France's Satellite Pour l'Observation de la Terre (SPOT) was placed into orbit in 1986 with a maximum resolution of 10m. In 1988 the Indian Remote Sensing (IRS) system was launched with a 6-meter sensor. Six meters, however, is coarse when compared to current and planned systems.

In 1999 a new satellite, one of several proposed by private businesses after a shift in U.S. space policy, was placed into orbit. This system (IKONOS) has a maximum ground resolution of 1 meter and has considerable implications for strategic and individual-level surveillance. To place the spatial resolution of IKONOS in context, approximately 2500 of its pixels would be needed to construct an image of an Olympic-sized swimming pool. In fact, card-table sized objects can be resolved, provided there is sufficient contrast between the target and its surroundings. Note, however, that features below the resolution of a sensor can be detected, again, when sufficient contrast exists. This means that it is now possible to count vehicles in the driveway of a suburban dwelling and to make counts of individuals from orbit if they are sufficiently dispersed and have sufficient contrast (e.g., people on a lawn).

Not only are data from these 1-meter systems now available, they are the harbingers of even higher resolution systems. The U.S. Department of Commerce has recently licensed sensors with a spatial resolution of 0.5 meters (DOC, 2001) and at least one commercial firm has indicated its intent to place a payload with such a capability into orbit by 2004 (SpaceImaging, 2001). This sensor will have 4 times the resolution of current 1 meter systems, and considering that it is possible to resolve sub-pixel features, it will certainly be possible to distinguish the characteristics of individuals, provided they are unusual in some respect. For example, if a person were to wear a white sombrero, when observed from orbit they could be distinguishable in a crowd. Moreover, at this level of spatial resolution, counting individuals becomes a more straightforward activity, since this level of resolution approximates "personal distance" in proxemics analyses (Hall, 1959; Porteous, 1977).

The increased surveillance capabilities of commercial remote sensing imagery has not gone without notice. In a move that shocked the commercial remote sensing community, the U.S. Department of Commerce, citing Section 1064 of Public Law 104-201 (the 1997 Defense Authorization Act), banned the sale of images of Israel at a resolution of less than 2 meters.

This level was chosen because imagery from an unregulated 2 meter Russian system has recently become available. Israel apparently cited military and strategic concerns in arguing for the ban. Similar security concerns exist elsewhere, and mapped information routinely distributed in the U.S. (see Monmonier, 1996: 118-120) is unavailable in many other countries. With the increasing penetration of the Internet, even into developing countries, such restrictions are rapidly becoming moot (see Petrazini and Kibati, 1999; Agarwal, 1999).

Inverse Address Matching and GIS- We Know Where You Live

In 1869, Dr. John Snow produced a map that showed the location of fatalities from a cholera outbreak in London (Frerichs, 2001). After studying this map, and observing a cluster of deaths, he formulated a hypothesis that the outbreak was related to the water supply. Snow then ordered the handle removed from a water pump located near the center of the cluster, the deaths in the area appeared to decrease as a consequence, and additional research (by Snow and others) established that cholera was, in fact, a water-borne disease (c.f. Tufte, 1997; Brody et al., 2000).

The map that Snow produced was an early example of "dot mapping" or "pin mapping" that is created from a street network and addresses for a specific set of incidents, in his case cholera fatalities. Other common examples include crime mapping (e.g., of burglary locations) and retail market analysis (e.g., customer residences). The creation of such maps required considerable effort in the past, but now they can be made easily using the address-matching capabilities of inexpensive GIS software and street network databases such as the TIGER files created to support US Census data collection activities (Broome and Meixler, 1990; Marx, 1990).

If we consider a typical dot map, the information depicted is often thought to be anonymous (Figure 1): There is no direct evidence provided to identify individuals from the abstract symbols on the map and it is especially difficult to recover information in cases where each symbol represents several phenomena. It is a common practice, for example, to produce population distribution maps in which each dot, for example, represents 500 persons (see Dent, 1999). However, in epidemiological and criminal investigations it is much more common to find a one-to-one correspondence between each symbol (a case) and the phenomenon it represents. What is not widely known, even by many GIS practitioners, is that it is also a relatively simple matter to recover addresses from a map using a process called inverse (or reverse) address matching. These recovered addresses can then be

cross-referenced with other databases (e.g., city directories) to reveal further details about personal identities.

Figure 1 was produced by selecting 30 individuals from a telephone directory. The addresses were input into a database, address-matched, and then mapped using a TIGER file and GIS software (ArcView, version 8.0.2, by ESRI). In some cases, an address cannot be linked to TIGER files because of a lack of agreement in the spelling of street names, including prefixes and suffixes. For example, 123 NE Bridge Street Ct is not easily matched to 123 Northeast Bridg St Court. In other cases, new construction creates streets (and addresses) that are not included even in the most recent TIGER file. Despite such problems, with current address-matching software and an appropriate level of human intervention, it is usually possible to match more than 90% of the addresses in a file. In the example described here, 100% of the randomly-selected addresses were matched successfully.

If information is represented as an address-matched dot map, how difficult is it to invert the mapping process and recover the original addresses that were used to produce the map? It turns out that it is quite easy to recover an address (Figure 2). But largely as a consequence of factors related to the TIGER files and the address-matching algorithms used, uncertainty remains about whether the address obtained is the correct address. In fact, of the 30 original addresses used to produce Figure 1, 19 (63%) were *exactly* inverse address matched using ArcView. However, if we loosen this restriction slightly, 25 (83%) were within one address and 29 (97%) were located on the correct street segment (a block face between intersections). This level of local accuracy means that there is a significant risk that individual-level dot mapped information can be compromised to reveal addresses, and by implication, personal identities. Consequently, individual-level data (such as medical information) should not be address-matched and released into public view unless it has been masked, for example, by randomly displacing each symbol (Armstrong, Rushton and Zimmerman, 1999; Chakraborty and Armstrong, 2001). Additional research is needed to provide empirical bounds on expectations about address-match inversion success rates under different assumptions about source map scale, symbolization, residential structure, and masking strategy.

Location Based Services- Do You Want Fries With That?

Most adults in the U.S. allow information to be published that others elect to hold back-- their telephone listing. Telephone directories are available on-line, and can be cross-linked to other databases, making it possible,

therefore, to enter a name, obtain a telephone number and address, and then use that address to create a map. This type of cross-referenced information serves as the basis for the E-911 system that has important public health and emergency service implications in the U.S. In most localities, a call placed to a local 911 number will enable emergency services to be dispatched to the address at which the telephone is located.

With the proliferation of cellular telephones in the late 1990s, a significant and often life-threatening problem was encountered with increasing frequency. Cell phone users called 911 with the expectation that they would receive help. The problem, of course, is that cell phone numbers are not tied to a specific physical location (except as a billing address) and when cell phone users were unable to provide useful information about their current location, this created enormous problems for emergency service providers. As a consequence, the Federal Communications Commission has stipulated that, effective in late 2001, the location of an activated cell phone handset must be able to be determined to within 50 meters for 67% of calls and 150 meters for 95% of calls (FCC, 2000). Several approaches have been considered to accomplish this task though two have gained the most support: triangulation of cell phone transmissions based on signal strength and direction, and the installation of small GPS (Global Positioning System) receivers in each cell phone (Hein, *et al.*, 2001). Because of an executive order that took effect in May 2000, typical GPS receivers are now able to provide an increased level of coordinate accuracy (NOAA, 2001); this ability, coupled with rapid price drops in increasingly compact GPS receivers, provides considerable power to a new generation of location-based services.

Location-based services are used with wireless communication devices to provide information about the local context of a mobile user. For example, if a user were in an unfamiliar city, it would be possible to receive information about, for example, the direction, distance, and route to all Chinese restaurants (if any) within 1 km of their current location. Moreover, when linked to other databases it would also be possible to not only view a menu, but also a list of lunch (or dinner) specials that might be available. Golledge *et al.* (1998) have described how a variation on this technology can be used to provide geographic information to visually-impaired travelers. Of course, individuals would have to "opt in" to receive these types of services, but the potential for service-providers to collect information about individual-level spatial behavior is substantial (Dobson, 2000). Moreover, the potential abuse of such technology by police has yet to be addressed by scholars and civil libertarians.

Concluding Discussion

Increasing numbers of people are becoming integrated into the densifying global web of wired and wireless communication and information technologies. Digitally encoded information about their real and virtual activities will be collected and used, possibly for nefarious purposes. In this paper my goal has been to elucidate some of the increasingly significant impacts that geo-spatial technologies will have on the surveillance of day-to-day activities, as well as the follow-on effects that will be observed with respect to our technologically-mediated, and inevitably fluid, notions about privacy.

Remote sensing, long the provenance of government agencies, is now a big business and competition is spurring improvements in service. In the near future, companies will be able to provide images with what 10 years ago would have been almost unthinkable levels of fidelity. Though such imagery only reveals objects as they are viewed from orbit, it may reveal more than we might wish and access to it will be available to all who can afford it.

GIS is also a multi-billion dollar a year industry and as it penetrates into additional market segments, cost-of-use will continue to decrease rapidly. There is, however, only a nascent concern amongst current researchers about the personal privacy intrusion aspects of this technology; there is, for example, no research literature about inverse-address-matching. Location-based services are, in a very real sense, an elaboration on the theme of inverse address matching. These new services exist in the rapidly growing high technology nexus that integrates GIS, wireless computing and cellular telephones. The coming decade will see substantial growth in these as yet unregulated location-based services, especially as third-generation cell phones with improved graphics capabilities become commonplace. The social science implications of these new geo-spatial technologies have yet to be addressed in a comprehensive fashion and the societal impacts of emergent fusions of these technologies requires further theoretical and empirical investigation.

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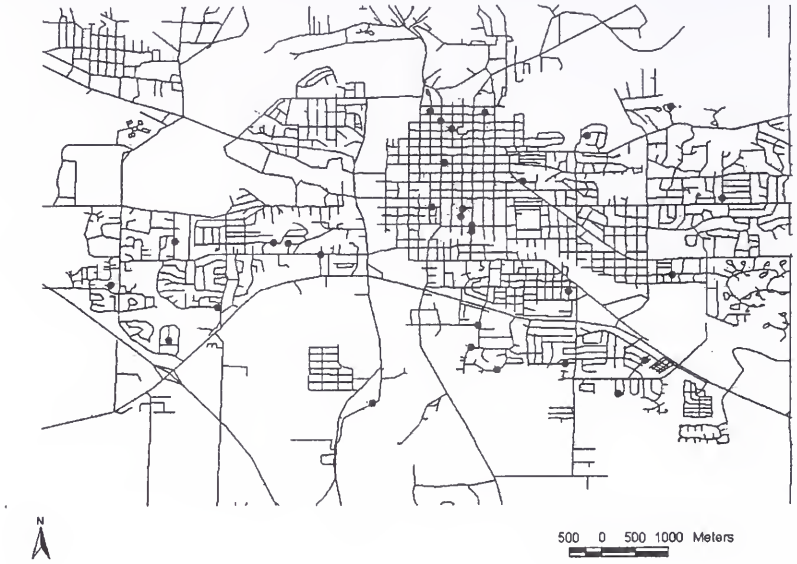
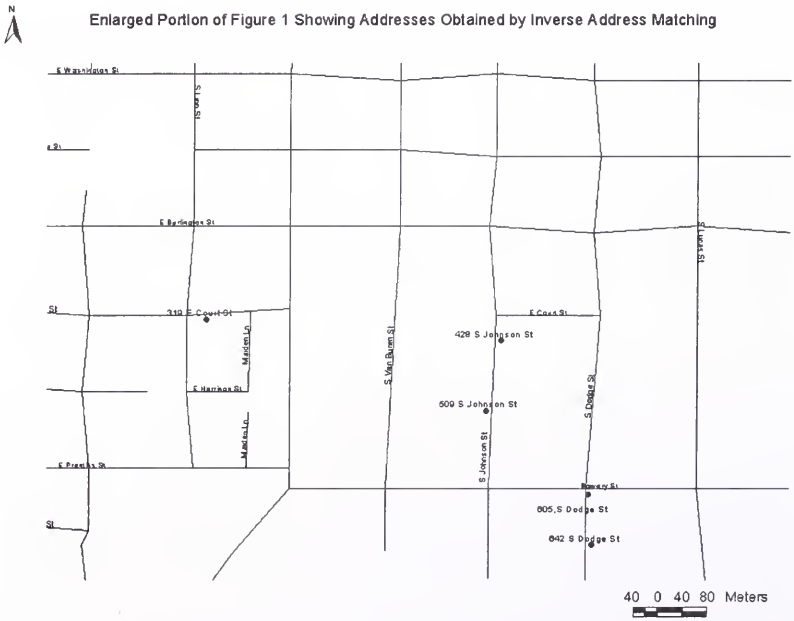


Figure 1. Locations for Thirty Randomly-Selected Address in Iowa City, IA .



To Promote the General Welfare – the Ethical Imperative of Closing the Digital Divide

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> We the People of the United States, in order to form a more perfect Union, establish Justice, insure domestic Tranquility, provide for the common defense, promote the general Welfare, and secure the blessings of Liberty to ourselves and our Posterity, do ordain and establish this Constitution for the United States of America.

Technology has a tremendous hold on the lives of many Americans – some would probably call it a "strangle-hold." For academics, advances and innovations in technology now make it possible to collect more data, crunch it more easily, publish it more rapidly and disseminate it to more individuals around the globe. Gone are the days of a delayed response. Bulletin boards are created in conjunction with symposia, and there is no delay in your determining whether your arguments, hypotheses, propositions are recommendations are theoretically suspect, your colleagues in the academy, thanks to technology have the capability to inform you of your flawed logic, practically instantaneously. Individually, as scholars, along with these rapid advancements and innovations has come a realization that unless we become more technologically savvy, that is – able to cut, paste, scan and deliver, animate our lectures with sound and up-to-the-minute information, and deliver our courses to new customers who just don't have the time to physically present themselves on campus, in a web-based environment – that we run the risk of obsolescence, that as "Boomers" delivering instruction to "GenXers," our mindsets must change, we must "get with the program" or be left behind.

We could say that technology, specifically information and communication technology, offers tremendous opportunity for the social sciences, particularly in the areas of research, scholarship, and dissemination. However, advances in technology have also raised questions of an ethical nature, related to who has access and who ultimately benefits.

If you are teaching at a Carnegie designated Research I Institution, the probabilities of your having access are pretty good. But what about your students, or your potential students, or their parents, or the grandmothers of your students, or the disabled or members of disadvantaged populations? Advances in technology have allowed scholars an opportunity to access information on a myriad subjects. But the question of access, who has it, and who doesn't is an issue that bears consideration and review.

The purpose of this paper is to carefully examine one aspect of information technology related to access – the existence of what is frequently referred to as the "digital divide." I believe that as scholars and researchers, we have to look beyond immediate and individual benefits and also consider community, nation, and world.

Technology can enhance a person's existence, in becoming "connected" the world becomes a much smaller place. Baggio (2001) suggests that digital contact can bridge social and physical frontiers allowing distant communities to share the same reality. For others, its absence can make the world less accessible, and much more difficult to navigate. Knowledge is power. But rapid changes in technology, for example going from a 486 to a Pentium suggests that everyone is not going to be on the same page at the same time. There are some basics, that can be provided that can give everyone some entry point, however what should be done if barriers related to race, gender, poverty, disability or infrastructure exist? Other scholars (Kodama, 2001 for example) suggest that the essence of information technology lies in its ability to broaden the range and possibilities of human activity. Economically, if your circumstances preclude you from traveling the globe, might you derive satisfaction from a "virtual tour?"

My thesis is as follows: Removing the barriers that prevent access to technology, specifically communication and information technology should be a governmental priority. My argument is based on the belief that this is an ethical imperative. Just as government is responsible for ensuring that we are safe from air pollution, safe from the invasion of our enemies – so too is the responsibility for ensuring that there is access for all - to technology. That is, when we argue that government should do what is in the public's best interest, removing these barriers falls within this realm.

Constitutional Implications

The Preamble to the Constitution suggests that its existence is as the result of a desire to promote the general Welfare. So examining this notion of technology and access, from a philosophical perspective I turn to this

document to lay the foundation for my thesis. It is a document that serves as the foundation for all decisions and policy making that impacts the lives of all Americans. Rosenbloom, Carroll and Carroll (2000) argue that it is a "document written in 1787 that still governs a complex nation such as the United States and must be both flexible and brilliant.... And that its flexibility allows it to accommodate vast social, economic, intellectual, and technological change." So the Constitution through the application of formal and informal methods of amendment has evolved to allow for and address social, cultural and most significantly, technological change and I am suggesting that removing barriers to facilitate access should be considered promoting the general welfare. I believe that this proposition is a valid one in light of the rhetoric associated with governments' desires for the social well-being of its citizens. For example the presidents and prime ministers of the G8 assert that information technology provides enormous opportunities to be seized and shared by all (Presidents & Prime Ministers, 2000).

Social science has been and continues to be a vehicle for examining the problems and ills of society. Social science research and inquiry has allowed scholars to examine issues related to economic disparity, poverty and race. The digital revolution, as mentioned in the introduction of this paper, has facilitated the capability of the scholar to collect, review, evaluate and analyze information, ultimately building new knowledge. Again, knowledge is power and this revolution has also made it abundantly clear that everyone isn't riding this wave and that something should be done about this fact.

The Divide

Much has been written about the "digital divide." It can be defined as the gap between the information rich and the information poor that exists because of inadequate access to technology that facilitates access to information. This could be as simple as a telephone, analog versus digital, or it could be as complex as knowing the best buy between a 1.3 GHz Intel Pentium 4 or a 1.0 GHz AMD Athlon.

The use of technology in its various forms has numerous and multiple implications. The Social Science Research Council's website (www.ssrc.org/programs) argues that the rapid introduction of technology that has been witnessed in the last two decades (is) designed to aid progress, but that to date no body of language exists to guide decisions inspired by or that bear directly on information technology.

In 2001 inquiring minds can revisit the idea of promoting the general welfare and wonder if providing access to technology, specifically information

technology to those who are disadvantaged is what the Founding Fathers envisioned.

In his final State of the Union address, Bill Clinton said the following, "Opportunity for all requires having access to a computer and knowing how to use it. That means we must close the 'digital divide' between those who've got the tools and those who don't" (Goldsborough 2000), this suggests that the access equals opportunity which equals a competitive advantage for all Americans.

But is the divide related to race, income, ethnicity, and/or gender? In reference to women and the divide, Marcia Ann Gillespie (editor-in-chief of *Ms. Magazine*) responding to an *Inc. Magazine* interview says, "If you asked me four years ago whether the culture of technology is good or bad for women, I would have said that maybe it's not a good thing. It is so incredibly male-centered. But more and more women are embracing the new media and technology" (*Inc.*, 2000).

So the question becomes one centered around impact and outcome. If the literature abounds with research suggesting that the corporate/organizational playing field is not level (see Fernandez, 1999 for example), that women face something termed the "glass ceiling," will access to, understanding of, and ability to utilize and manipulate the new media and information technology enhance and improve the opportunities for women?

Gillespie (2000) also observes that "the most disturbing and insidious part of the new technological age is that there is no discussion of how technology can be used for the greater good" – you know to, as I have suggested, 'promote the general welfare.'

So social science research probably allows us or at least compels scholars to ask – who benefits and who pays? Does the rising tide of technology "float all ships?" If it does my thesis is supported. Or in our rush to technological supremacy are we leaving those behind whose income, race, ethnicity, disabilities and gender present barriers and challenges. And if we are – does it matter?

As scholars engaged in social science research, an examination of information technology requires an assessment of this fundamental concern, this assessment requires us to examine the rhetoric focusing on the "digital divide" to determine if it is instigated by some fundamental assertion/belief that access and use will somehow benefit the commons.

Presidential Support

An examination of the Clinton record suggests that he was committed to closing the gap. In July 1999, Clinton proposed a multi-billion-dollar program to help bridge the digital divide to ultimately provide access for all Americans (Rosenthal, 2000). This included an initiative to promote innovative applications of information technology for underserved communities tripling the Department of Commerce's Technology Opportunities Program. Interestingly enough, post Bill Clinton, the current administration does not appear to be as committed to bridging the divide. Some observers are quick to point to the comments made by Michael Powell, in his first news conference as chair of the Federal Communication Commission. Powell skeptical about the FCC's role in closing the divide, suggested that the ability of some individuals to be the first to purchase and use cutting edge technology doesn't suggest that there is a divide, going on to say "I think there is a Mercedes divide. I'd like to have one" (Flagg, 2001).

The Republicans oppose the broader brush response to disparities and favor funding those long-standing programs that have more specific mandates (Ross 2001), although Fred Lipton, a leading Republican objected to the reduction in the Technology Opportunities Program budget. Plus given the Republican emphasis on "less government" I would argue that it is highly unlikely that philosophically and ideologically my argument would find consensus and support.

Falling Through the Net

This difference in perspectives has led to a proposed reduction in the Technology Opportunities Program from 42 to 15 million, even though the Department of Commerce's Falling Through the Net document suggests that the digital divide is "now one of America's leading economic and civil rights issues (Department of Commerce, 1999).

The Executive Summary of this report, argues that "information tools, such as the personal computer and the Internet are increasingly critical to economic success and personal achievement."

Two of the most significant findings from the report relevant to an exploration of the ethical imperative are as follows:

- Whites are more likely to have access to the Internet from home than Blacks or Hispanics have in any other location.
- Regardless of income level, Americans living in rural areas are lagging behind in Internet access and even at the lowest income levels, those in

urban areas are more than twice as likely to have Internet access than those earning some income in rural areas.

Promoting the general welfare suggests to me that it is equally as important for those in rural areas as well as urban areas to reap the benefits associated with access to information technology, that differences in gender should have no bearing, that differences in ethnicity should not dictate who has access to information and ultimately knowledge.

The report also indicated that in many instances the divide has widened.

The Digital Economy

Dusen Wishard (2000) submits that the Internet is redefining basic economic activity with a projected forecast by Forrester Research of business-to-business e-commerce expected to grow from $43 billion to $1.3 trillion.

For those families in America with annual household incomes of $75,000 it can be assumed that they are major participants in this commerce, but can the same be said for lower income urban families or households in rural unconnected areas?

Theirer (2000), on the other hand argues that there is no divide – that given the age of the "free PC," and given the results of a survey that suggests that 97.3% of all poor households own a television set, it can be inferred then, if household access doesn't exist, it's because people are not interested in having access. He also argues that low-income households are now seen by computer firms as the most popular segment of the market to target. He raises some interesting points, however, access to a computer does not automatically create access to the Internet and issues such as existing infrastructure bear consideration.

Knowing use patterns, and potential use patterns is useful. Research suggests that there are differences in use based on race, ethnicity, and gender. For example, while there are similarities in use for whites and African Americans, African Americans are more likely than whites to have used the technology for those activities related to economic advancement and quality of life, job and housing searches, and to also search for religious and spiritual material (*The Other Side,* 2001).

This pattern of use suggests that increasing access is useful for eliminating economic disparities.

Electronic Government and Virtual Communities

The move to create virtual communities, or virtual town halls, may be one argument for the need for access. Some analysts argue that access

to the Internet will become more necessary for full participation in the democratic process.

Access to e-government can facilitate the delivery of services – for example, paying taxes on line, downloading government documents, or securing permits. Tremendous implications exist for those individuals who have difficulties navigating bureaucracies, those who are intimidated by bureaucracies or just those who are far removed from central government structures.

The city of San Carlos, California serves as an example of the possibilities. This city has established a working relationship with Microsoft and participates in the California State Select Agreement (*Public Management*, 2000). The city is currently involved in a project where through the use of technology – city services can be available to citizens twenty-four hours a day and seven days a week. So the creation of a "virtual city hall" is believed to be a mechanism for improving the relationship between government and the citizenry.

Neuborne (2001) reminds us that certain groups historically have been excluded from full participation in the electoral process, and he offers the possibility of Internet voting as one of several remedies to the fiasco of the 2000 Presidential election. He cautions, however, that any discussion of advanced voting technology must consider the impact of these kinds of methods on the electoral divide that separates the rich and poor.

E-government has been touted as a mechanism for providing increased access for citizens but given the current disparities and inequities related to access, how can electronic government truly increase access for all citizens?

Baggio (2001) argues that new technologies offer an unprecedented tool for social mobilization for the less privileged. He suggests that the challenge is to reduce what he refers to as the "digital apartheid" of underprivileged communities. Kodama (2000) presents case study research of the installation of a multimedia village project in Katsuraomura, Japan, to raise the information and knowledge levels of individual residents and found that the use of video terminals and digital networks will be integral to creating new, virtual, regional communities. Longstreth (2001) discussed the benefits derived from the use of "little intelligence communities" LINCOS, with the utilization of mobile digital community centers in recycled shipping containers. These containers were deployed to Costa Rica and have been instrumental in creating opportunities for groups such as in the case of Costa Rica, coffee growers who took advantage of the opportunity to scan the

Internet for information on prices and weather. Both the Japanese and Costa Rican examples illustrate existing capabilities that can be utilized to benefit social and economical needs.

Although proponents argue that this increased access to government can only lead to positive results, some question whether technology is changing democracy in ways that make it less democratic (*National Civic Review,* 2000). The removal of barriers suggests that disadvantaged populations could have greater access to government information.

A discussion of the potential for virtual communities is also relevant. One question that arises is whether the use of information technology assists in improving communication between groups/individuals who are different. Benschoten (2000) argues that one major benefit of on-line communicating is that disenfranchised groups have been allowed to participate in discussions that they otherwise might have been excluded from. However, the anonymity and distance that presents itself in electronic communication makes it possible for communication to become more aggressive, less civil, more hostile and more challenging than face-to-face communication. So frequently on-line discussions, via chat-rooms or community bulletin boards may reveal the presence of prejudices, racist ideologies, and stereotypical beliefs.

This evidence of decreasing rather than increasing tolerance, is related to a concern raised by Benschoten (2000) that the absence of body language and tonal differentiation in on-line communication, will lead to more misunderstanding between people.

Dusen Wishard (2000) also argues that the information environment in which the individual lives is being radically altered, that this ability and capability of speed in transmitting information, ideas, and images does not allow for making adjustments. He suggests that rapid access to information does not provide time to shape this information into coherent meaning, contributing to what he calls a "certain psychic disorientation."

So increased access and elimination of barriers could result in less willingness for shared space, contributing to decreased rather than increased understanding.

Conclusion

The Social Science Research Council has established the Program on Information Technology International Cooperation and Global Security to nurture the development of social science research on information technology.

It is clear that while advancements in technology have allowed social

scientists to improve the collection, analysis and evaluation of data, these advancements also have the potential to create dysfunction and increase disparities that exist among certain disadvantaged populations.

Much more emphasis is needed on issues related to the ethical implications associated with access for all. The "rising tide" analogy warrants restating at this point. Shouldn't there be a compelling interest in ensuring that everyone has equal access to information technology? I think that there should be. The presidents and prime ministers of the G-8 assert:

> "To this end we must ensure that IT (information technology) serves the mutually supportive goals of creating sustainable economic growth, enhancing the public welfare, and fostering social cohesion, and work to fully realize its potential to strengthen democracy, increase transparency and accountability in governance, promote human rights, enhance cultural diversity, and foster international peace and stability" (G-8's Information and Technology Commitment, 2000).

This vision for the opportunities to be reaped from information technology as well as a commitment to its capabilities to enhance the public welfare support my thesis. This paper has presented several areas that bear increased attention and examination. It is hoped that questions raised are thoughtful enough and provocative enough to move inquiring minds to action.

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Political Activity, Administrative Controls and Communications Technology: Observations from a State Bureaucracy

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Abstract

Attempts at separating politics from the bureaucracy are as old as the republic itself. Founding presidents of all persuasions found electioneering by public employees to be inconsistent with the Constitution. In countering the nation's early tradition of public corruption, several executive and legislative enterprises mandated restraints against partisan activity in the public sector. The Civil Service Act created a non-partisan civil service, and the Political Activities Act restricted political activities by bureaucrats. Advances in communications technology allow employees to engage in more electioneering, while agencies can monitor such activities with greater ease. Employee privacy rights have encountered employer entitlements.

Just how productive are laws such as the Civil Service or Political Activities Acts? In a survey of employees in seven Georgia state agencies, we found that most workers were ignorant of stipulations against partisanship in the bureaucracy. We also found that employees sought more autonomy to engage in political endeavors. While partisan activity in these bureaucracies was not excessive, its curtailment is not impending.

Prelude to Bureaucratic Reform

Amid constant efforts to purify the American political process, from campaign contribution reform to reorganization of the massive federal bureaucracy, efforts to monitor the partisan activity of public workers remain an ongoing process. Rosenbloom (1983) and Shafritz, et al. (2001) indicate that as early as 1801, President Jefferson expressed the belief that electioneering by a federal employee was "inconsistent with the Constitution and his duties to it," while President Hayes in 1877 restricted employees' political activities to those that did not "interfere with the discharge of their

official duties." In the late 1800's, President Cleveland sought to prevent employees from "offending by a display of obtrusive partisanship." Theodore Roosevelt followed with the decree that federal employees would not use their "official position to the benefit of one political party," later forbidding any activity in "political management or campaigns."

The Evolving Civil Service

Attempts to create a structured non-partisan civil service sputtered with President Grant's failed Civil Service Commission. Although Congress approved legislation to create such a commission in 1871, members became alarmed at the President's serious attempt to curtail Congressional patronage powers; consequently, funding for the Civil Service was not appropriated. Earlier, Congressman Thomas Jenckes, fueled by his contempt for President Andrew Johnson, suggested that the Vice-President preside over a proposed Civil Service Commission. As the public became increasingly aware of partisan efforts to derail reform, support for an effective Civil Service flourished. Exposes of corrupt municipal operations, such as the Boss Tweed machine in New York, aided the cause.

However, it would take the assassination of President Garfield by a deranged office seeker to provide the catalyst for the establishment of a viable Civil Service. Just as President Kennedy's assassination provided the momentum for Civil Rights legislation, Garfield's murder led to Senator Pendleton's Civil Service Act. Finally, public personnel had its landmark bill, creating a Civil Service Commission to oversee hiring, retention, and activities of public employees (Shafritz, et al., 2001).

The Civil Service would not be immune from patronage and corruption, however, stimulating efforts such as Franklin Roosevelt's Committee on Administrative Management, the Hoover Commission, President Reagan's Grace Commission and Bill Clinton's National Performance Review to restructure and create a more efficient and honorable bureaucracy (Wilson, DiIulio, 2001). Schuman and Olufs (1993) demonstrate that President Carter's Civil Service Reform Act of 1979 was a further attempt to curtail bureaucratic political activity. It established the Office of Personnel Management to oversee federal employees, and the Merit Service Protection Board to promote the political immunity of public workers.

Enforcing Compliance With the Political Activities Act

As the New Deal's Works Progress Administration officers used their positions to secure party votes among the federal workforce's legions of Democratic voters, Congress passed the Political Activities Act of 1939,

introduced by Democratic Senator Carl Hatch of New Mexico. This epic legislation, generally referred to as the Hatch Act, limits the political activities of federal employees and prohibits the intimidation of voters, as well as the use of bribery, during elections. The Second Hatch Act of 1940 extended the law to employees in state agencies subject to federal financing (Starling, 1998). Under Hatch Act restrictions, employees *cannot influence a partisan election, be a candidate, campaign for a party, solicit contributions, be a party officer, manage a campaign, distribute campaign material,* or *endorse a candidate.* However, employees *may vote, register in a party, contribute to a campaign, run or participate in non-partisan elections, be appointed to public office, be an election clerk, attend a political convention, be a member of a political party, sign petitions,* or *appeal to a member of Congress* (Cooper, 1983; Welch, et al., 1999).

As the use of teletype and long-distance telephone became more widespread, it became a daunting task for public officials to monitor partisan abuses by employees. The state of the technology at that time did not allow for detailed record-keeping of contacts that could be traced to political bases of operation, nor could such partisanship be easily observed.

The 1977 benchmark case of *Elrod v. Burns,* however, sustained protections against political coercion against public workers as outlined by Hatch. Here, the Supreme Court decreed that incoming municipal administrations could not systematically replace non-civil service employees of the opposite party. Stating that this seasoned practice was unconstitutional and a restraint on freedom of association, the Court mandated the reinstatement of Cook County Sheriff John Burns in Illinois. Ironically, Burns obtained his job in the same manner as his dismissal. In dissension, Justice Brennan asserted that patronage hiring has "historically contributed to the practical functioning of our democratic system." The *Burns* case was upheld in 1980, in *Branti v. Finkel*, in Rockland County, New York. The courts, and sympathetic presidents such as Kennedy, have generally supported employee freedom of speech and association issues, as well as the right to join unions. However, Hatch Act constraints usually hold up to judicial review. The 1947 Supreme Court case of *United Public Workers v. Mitchell* and the 1972 case of *National Association of Letter Carriers v. Civil Service Commission*, upon appeal to the High Court, reaffirmed employee political restrictions (Sylvia, 1994).

A Non-Partisan Bureaucracy and Electronic Privacy

In 1990, the Hatch Act was again in the center of political controversy. After intensive lobbying by employee unions, Congress voted overwhelmingly

to allow federal workers to hold office in political organizations, engage in political activities, and campaign while not on duty. President George H. Bush, however, viewed this legislative action as a Democratic initiative; consequently, he vetoed the effort. A subsequent override attempt was unsuccessful (Shafritz, et al., 2001).

In 1993, Congress again approved amendments to the Hatch Act. This time, President Clinton signed the legislation allowing all Merit Service employees to engage in political activities away from the workplace. They *may* now *contribute to political organizations, engage in campaigns, solicit contributions, recruit volunteers, display partisan signs,* and *speak on behalf of candidates* (Anonymous, 1996). However, Hatch still allows for Congressional oversight of bureaucratic partisanship, particularly in regard to union activity in elections, as well as other ethical considerations. Also, employees of politically sensitive agencies are subject to the original mandates of the Act. Such agencies include the Federal Elections Commission; Federal Bureau of Investigation; Secret Service; Central Intelligence Agency; National Security Council; Defense Intelligence Agency; Merit Service Protection Board; Internal Revenue Service; Department of Justice; Customs Service; and Bureau of Alcohol, Tobacco and Firearms (Cayer, 1996).

At that same time, greater advances in communications technology allowed for controversial surveillance. Video tracking of employee locations, tapping of agency telephones and e-mail transfers, and computer record-keeping has eased the difficulty of observing partisan activity. Is an employee's telephone, e-mail, electronic bulletin board, or computer hard drive open to investigations of Hatch violations, or are they the private domain of the individual? The Privacy Act of 1974 excludes adverse personnel action based on the private communications of the employee. However, an employee's expectation of privacy under the Electronic Communications Privacy Act of 1984 does not extend to constraints against officials reviewing employee-generated e-mails, particularly in the case of a public agency's compelling interest in observing partisan bureaucratic activity. An employer's authority to monitor e-mails was upheld in the U.S. District Court case of *Smyth v. The Pillsbury Company* (Cozzeto and Pedeliski, 1997).

Compliance with the Hatch Act

Some 40% of all state and local employees state they would participate more actively in politics if Hatch Act regulations were relaxed (Tompkins, 1995). However, in Georgia, a survey of career employees of five state executive branch agencies, a governor's commission, as well as the legislature,[1]

revealed that legal restrictions do not necessarily curtail bureaucratic partisan politics, particularly in the state's newly revised bureaucracy, where the civil service has been eliminated.[2]

The survey included the following questions and responses (n=60):

Are you familiar with the Hatch Act of 1940?
Yes- 10% No- 90%

Do you know of a public official who has pressured an employee to amend public policy for that official's political benefit?
Yes- 30% No- 70%

Do you know any state employees who openly campaign for elected officials while at the workplace?
Yes- 10% No- 90%

Should political discussions be allowed at work during breaks?
Yes- 100% No- 0%

Do you know any state employee who holds funds for a political party?
Yes- 10% No- 90%

Would you foresee punishment for a state employee who brought party politics to the workplace?
Yes- 40% No- 60%

Do you know any state employee who openly participates in party politics at the workplace?
Yes- 10% No- 90%

Have you received political e-mails from fellow employees?
Yes- 5% No- 95%

Do you know any state employee who is a delegate to a party convention?
Yes- 5% No- 95%

Do you know any state employee who solicits funds for a political party?
Yes- 5% No- 95%

Conclusions

Results indicate that state employees seek some relaxations of the Hatch Act, such as the open discussion of partisan politics during recesses. Recently, the Supreme Court upheld employee prerogatives to conduct religious dialogues while on break (Starling, 1998). While Georgia workers are rather ignorant of Hatch Act directives, political activities are not rampant in the workplace.

However, some employees do engage in party politics while on duty, such as expressing support for candidates, wearing campaign pins, and distributing political literature, including e-mail messages. There also appears to be little agency enforcement of the Act, nor monitoring of party action or the use of technology, such as e-mail surveillance, to ensure compliance. With the prevailing perception that few sanctions exist, partisan activity will remain a component of the public employment environment.

Notes

[1] Employees were surveyed by questionnaire in a state administration building cafeteria during lunch. Those polled were employees of the Georgia Department of Transportation, Department of Human Services, Department of Labor, Department of Revenue, Department of Administrative Services, Georgia Legislature and Public Service Commission.

[2] In 1995, the GeorgiaGain program declassified most positions formally covered under the Merit System. Employee evaluations were revised and corresponding wages were developed to be comparable to the private sector. Enacted by previous Governor Zell Miller, the politically popular policy is understandably loathed by Georgia's public workers who have lost several employee protections.

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Innovation, Technology and Municipal Governments

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Abstract

Information technologies increasingly serve as powerful tools for government and other public sector organizations. Municipal governments are rushing to implement new management information systems and computerized operations designed to substantially increase effectiveness and efficiency in the delivery of public services, the management of critical information sources for decision-making and the formulation of public policy. While significant attention is paid to the design and implementation phases of launching new technology, these systems also require new policies and procedures for managing and disseminating information and knowledge. This paper presents the findings of a statewide survey of 494 municipalities in Maine examining technological innovation in local government, the utilization of technology for service delivery, and evolving workforce issues as a result of technological change. The survey results indicate that public sector employees caught in the implementation of new technology are often involved in extensive organizational change initiated by the adoption of these new information management approaches. Ultimately, government agencies seeking to embrace new technology must recognize that employee resistance to technology is also resistance to organizational change. Failure on the part of public managers to address the human side of technology launch, the transformational impact of information systems, and computerization on the nature of work within government places the adaptation of such technology at risk.

Introduction

The information age ushered in by the marriage of computers and telecommunications, compressing time and space, has transformed the workplace, the nature of government services, and the quality of individual lives and communities. The promises of technology, better and more efficient administration of public services have not escaped public organizations, confronted with mounting pressures to reinvent themselves into lean "service" machines. Characteristics of technology often facilitate organizational change

through the stimulus of new technology (Kolodny, Liu, Stymne and Denis, 1996). For governmental entities, information technologies are transforming the way public sector organizations organize and administer themselves and how important public goods and services are delivered to taxpayers and beneficiaries. As a result, computers and other forms of information handling devices and technologies impact the very nature of an organization's structure, employment patterns, and the quality of work life for its employees, the nature and prioritizing of work, and the management of resources. This paper is divided into four sections. The first describes the nature of technology growth in the public sector and the challenges inherent in the utilization of technology in the provision of government services. The second section provides an overview of the organizational and workforce benefits and costs associated with technology in public sector organizations. Thirdly, results of a statewide survey of municipalities in Maine are presented indicating the extent to which computerization and technology innovation are affecting the nature of local government, the services provided and the impact on government employees. Finally, this paper provides important survey findings for other municipal entities considering technology innovation, strengthens current research regarding the outcomes of technology and adds knowledge to the body of literature regarding the increasing importance of "e-government" and the launching of computerization and information management systems in municipal government.

Technology Growth in the Public Sector

Municipal, state and federal agencies are rushing headlong to develop management information systems designed to substantially increase effectiveness and efficiency in the delivery of public services and the management of critical information sources for decision-making and the formulation of public policy. Estimates between 3 and 17 percent are suggested as an accurate reflection of the current level of state budget expenditures for information resource management (Caudle et al., 1989 and Fletcher and Foy, 1994). Municipalities are also allocating resources for technological innovation, estimated now at three percent of operating budgets as of 1993 (Kraemer and Norris, 1994). The role of information technology in the public sector has grown substantially, evidenced by the commitment of over $23.5 billion towards IT by the federal government in 1994 alone (GAO, 1996b). Dollars invested are only one small measure of the impact of technology and the growing dependence upon every aspect of government operations on information systems (GAO, 1997b). State and

local governments are also actively engaged in the investment for information technology. The allocation of resources, (estimated at over $45 billion by the year 2001 (GS2 Research, 1996) and the commitment of public sector positions towards computer-related responsibilities (at least 20% of executive branch state-workers (Candle & Marchand, 1989) provides strong evidence state and municipal entities are rapidly engaging in the development and implementation of information technologies. Work by Northrop, Kraemer, Dunkle and King (1990) found that those cities and counties with populations over 50,000 use computer technology to support a variety of business activities, both work applications and administrative support systems. Work underwritten by the Council for Excellence in Government indicate a growing number of state governments are developing greater capacities for the allocation of important resources for the development of information technologies and infrastructure. However, the study also determined, "many small to mid-size cities and counties could well be labeled "technology have-nots" due to the lack of resources they have to spend on information management and technology" (Center for Technology in Government, 1997 p.5). The 1998 IPMA Technology Survey confirmed the growing expansion of information and telecommunication technologies in cities with populations over 100,000 and the development of Internet, intranet, web pages and electronic commerce activities (IPMA, 1998).

Heavy investment in information systems and the ensuing allocation of substantial resources in time, personnel and capital are done to gain advantages in both operational and managerial functions (Tapscott & Caston, 1993; Brown & Brudney, 199). Yet, the nature of computing in the public sector is often characterized by resource problems, fewer access to technical resources and a large gap between the technology available and that needed. Success therefore, can be elusive, benefits meager and expectations of enhanced efficiency and effectiveness dashed by either technological, organizational or workforce constraints. "For many public sector agencies, dysfunctional systems that impede productivity and thwart effective service delivery are too often the rule rather than the exception" (Brown and Brudney, 1998). In local government, the "sociotechnical" interface between end users and computer design specialists is significant, stressing the need for understanding the complexity of technological problems facing public sector organizations and the attitudes of service providers (Danger, 1993). Economics, politics and organizational design create technological difficulties for public sector organizations. Public sector employees caught in the transition to new technology are involved in often abrupt and massive

organizational change, initiated by the adaptation of new management information and automation approaches. Frequently, the lack of clear and committed long-range policy to technological development impacts on the level of budgeting for adoption of new technologies, both in the ability to attract key technical personnel and adequately fund and manage complex systems. With the evolution of computing and new technologies there are unprecedented opportunities for government organizations to achieve organizational goals **and** troublesome challenges for the management of such efforts (Kraemer and Dedrick, 1997). This article consequently, focuses on the management and impact of computing, the diffusion of computing innovation and the relationship between technology, employees and organizational work life of these public organizations.

Organizational Impact of Technology

There are a variety of findings in the literature regarding the impact of technology on public organizations. Conflicting conclusions are to a great extent reflective of the fact that the impact of technology and computerization is unique for each organization. Individual agencies or governmental units may be at very different stages of expertise regarding their technical sophistication or in the stages of technology implemented by these organizations. The assessment of technology's impact is also dependent upon time, often expressed in the learning needs of employees to upgrade skills and expertise, the localized nature of workflow improvements and the political nature of the tasks accomplished by public sector organizations (Northrop, Kraemer, Dunce and King, 1990). Launching technology in the public sector often focuses on the net effects of technology improving the work of government and other public organizations. Benefits of technology in the workplace have been characterized as primarily those associated with either work processes (improved availability of information and greater efficiency) or those associated with the allocation and control over information as organizational resources (Downs, 1967). The impact of the information age is not without consequences to the individuals within the organization as well. Early work by Warren and Slater (1968) recognized that the adaptability and flexibility of an organization is couched in people's ongoing ability to adjust to a new organizational culture, with rapidly shifting job requirements. As technology is redefining the concept of work, it is also redefining the nature of where work takes place, the nature of supervisory relationships and reporting structures, performance measurement and the monitoring of employees and tasks. Work once confined to specific space now takes

place in a variety of settings. The ability to connect in seconds has replaced what once took hours or days. The multidimensionality of work locations now also means that employees are increasingly accessible – by fax, email, cellular phone, pagers and voice mail, extending beyond time clocks and shift assignments.

Traditional organizational structure based on reporting relationships, and job titles are tested by the linkages established between people based on what they know rather than by job title. The understanding, utilization and optimization of new information and knowledge in new ways ultimately requires individuals who are comfortable with change and the recognition that many individuals may be left behind. As organizations quickly determine, the implementation of technology and the utilization of computers are not an exercise couched in neutrality or the adaptation of a benign tool. The potency of technology ultimately results in organizational, factional and individual winners and losers. Much of the victory or defeat is based on the essential transformation of data into information and the significance attached to the acquisition, access and control of that information.

The Maine Experience

The topography of this rugged, geographically diverse State has played and continues to play a significant role in the development and growth of Maine's 494 organized communities. Given the population (slightly over 1.2 million) the land area, (almost 31,000 square miles) and the distance between communities, adequate transportation and communication has always been a key factor in the development of Maine communities (MMA, 2001). A majority of Maine cities are located on the waterways of the state, providing both power for industry and a transportation link with the sea for commerce and trade. Until the late 1970's more than seventy percent of Maine's population resided in a twenty-mile corridor on either side of the interstate highway system. In stark contrast, more than forty percent of the northwest land area of the state is inhabited by approximately 6,000 people (MMA, 2001). In the form of "unorganized townships," these governmental units have no municipal oversight and are both taxed and supervised directly by the state of Maine. Local governments in Maine provide essential services to the citizens of their community, including road construction and maintenance, solid waste disposal, water utilities and waste water treatment, police and fire protection and emergency rescue, land use planning and building inspection, welfare and elementary/secondary public education. The isolation of many communities and the lack of

regional government infrastructure provide unique opportunities and challenges to local governments in Maine as these municipalities seek to serve their citizens.

Survey Findings

In an effort to assess the utilization and impact of information technology, computerization and communication applications among local governments, a mail survey was distributed by the Maine Municipal Association[1] (MMA) to its membership of 494 municipalities. The survey, examined three specific aspects of technology utilization, (1) technology applications and functions; (2) perceptions of technology/computer benefits and costs; and (3) technology management and workplace issues. Two hundred and seventy-nine of 494 municipalities completed and returned the MMA survey for a response rate of 56.4 percent. Survey respondents included a wide variety of municipal administrators, including Town Managers (41.5%), Select-persons (34.4%); Finance/Fiscal Officials (6.7%); and, Town Clerks and Administrative Personnel (9.0%). Only six individuals (2.0% of all respondents) identified themselves as either Information Management (IM) or Information Systems (IS) personnel (one of whom is an IS Manager for a Native American tribal nation). The composition of the respondents confirms findings in other municipal research (ICMA, 2000) suggesting that smaller municipalities' lack of resources add to the constraints of providing in-house technological expertise. Limited resources in small municipalities and external controls exerted by executive and legislative branches of government create additional burdens in the creation of specialized technology positions and often hinder public agencies' ability to meet increased internal demands for information systems knowledge. Given these constraints, typically, information management employees in many public agencies have grown into their positions by initially managing data entry systems rather than knowledge, formal training or education. Clearly this is the case among Maine municipalities where slack resources for expert positions are relatively absent.

Technology Applications and Functional Choices

Skinner (1979) argues that the direct impact of technology on the work environment is extraordinarily pervasive, ultimately effecting decisions impacting which work or portions of work will be done, who will perform the work and under what conditions and location the work be performed. Evidenced by more recent findings regarding the payoff of technologies in public organizations (Northrop, 1998), the impact of technology does differ greatly from one to another, the choice of which technology ultimately

affects the long-term performance of the organization and its ability to meet its strategic role and mission.

There are numerous ways computers can be utilized by managers, from enhanced electronic communications to data retrieval and analysis. Traditional systems design highlighted the system requirements necessary to improve work-flow, often involving the development of work practices seeking to improve effectiveness and efficiency frequently centering on the automation of discrete functions such as purchasing, payroll, financial accounting or documenting service provision (Berg, 1998). This notion is echoed by findings generated in this survey. Specific data and reporting management functions were the most frequently identified. These included tax records and billing (93.0%), accounts payable and receivable (92.2%), budgeting and fiscal reporting (92.0%), payroll (79.1%) and archival management such as voter registration and vital statistics (77.3%). The least frequently identified functions included code enforcement, property assessment/valuation activities and workload scheduling (16.3%, 19.6% and 19.0% respectively). Clearly, computer-based financial resource information is important to these municipal managers for both intra-organizational tasks (producing budgets, identifying slack resources and monitoring expenses) and inter-organizational responsibilities (debiting and crediting taxpayer accounts, verifying eligibility for entitlement programs and documentation).

Technology Benefits and Costs

Transformational technology efforts are undertaken on the basis of important organizational decisions regarding the flow and access of information. These decisions are predicated on answering important organizational questions on whether the overall productive value of the investment is worth the overall acquisition and operational costs. Literature examining technology utilization identifies both external (client centered) and internal (organization centered) benefits; including enhanced and expanded service delivery, greater organizational efficiency and effectiveness (Kraemer, et. al 1985; Lucas, 1981; Orilkowski, 1992; Kling, 1993). The results of this statewide municipal survey replicate these findings.

When asked to identify organizational benefits respondents identified saving time (79.2%), greater accuracy and work (66.8%), saving money (64.6%), immediacy of information access (56.1%) and better internal communication (43.6%). Perceived external benefits included enhanced ability for external communication (73.5%), better customer service (70.2%), and enhanced opportunities for expanded/improved services (61.3%). High

performance computing does not automatically translate into improvement in organizational performance. While both public and private sector managers place a substantial reliance on technology there is a growing body of research suggesting that "technology alone is sufficient to the task" (Chisholm, 1988; Zuboff, 1985; Weik, 1987). The value-added worth of computer systems is based in part, on the processes used to introduce technology in the workplace. In the public sector, the value-added nature of technology, both in meeting increasing information demands, places a high premium on unparalleled information access (technology) and technology's appeal and potential power affecting both the individuals and organizations that use it (Kraemer and King, 1986).

The attractiveness of technology in achieving greater outcomes of effectiveness and efficiency is offset by a number of organizational costs. The organizational price of technology reflects a number of interrelated issues including vendor dependency and effectiveness, cost issues (whether capital, production and/or human resource), workforce outcomes (productivity and performance) and employee attitudes towards technology and computerization. When asked to indicate the most likely areas considered to be problematic with the implementation of technology, respondents in the Maine municipal survey indicated that internal and external workforce factors and attitudinal issues were the most significant. The external workforce problems identified include; (1) the quality of vendor support during transition (70.0%); (2) the reliability of vendor training (67.8%); (3) the availability of resources for ongoing training/development of employees (67.1%), (4) the loss of employee productivity during training (62.0%), and (5) the cost of employee training (42.6%). These results echo Northrop et al.'s (1994) investigation of data from over three thousand municipal employees which found training to be an important and underutilized asset, and instrumental in overcoming limitations in both software and employee experience in computing. While new systems training is an important element in ensuring the success of new technology, of equal if not greater importance are the activities leading up to training (Caudron, 1998). Training and development efforts for public sector employees receive short shrift as many agencies have limited resources for training costs. Less than three percent of municipal and state budgets are allocated for the training and development of public employees. Often smaller statewide agencies, municipalities or limited size nonprofit organizations' lack of resources add to the constraints of providing in-house technological expertise. Overall, training and development is often intermittent, resulting in little formal planning to keep workers' knowledge on the cutting edge.

The ability to provide ongoing training and development opportunities to develop a cadre of trained personnel often becomes a political decision as agencies compete for limited resources. Yet, everything suggests that a positive outcome of launching new technology in organizations is highly dependent on the training and career development of employees.

The value of training, from the perspective of the survey respondents is tempered by externalities associated with vendor availability, support and reliability during the transition and training process. Given the importance of computer literacy and prior training to the success of technology adoption, the "short shelf life" of many computer and technology-consulting firms is a significant issue for municipal managers in the survey as there is no guarantee that even a well-known vendor won't vanish unexpectedly.

As significant as vendor performance, the debate over the value of information technology investment has not gone unnoticed by public sector managers and local leaders. Municipal governments find themselves (as with other public sector organizations) increasing expected to "do more with less." Calculating the return in the public sector is difficult given the provision of public services (Kraemer and Dedrick, 1994). Just as a greater emphasis on workplace flexibility and team or project management is replacing traditional command structures in organizations, so too are productivity measures altered by technology. The speed of technology impacts workplace rhythm increasing in both load and rate of work. Employees find themselves under pressure with newly available technology to increase productivity at the same time they are learning new systems and software. The National Research Council's report, "Information Technology in the Service Society," recognizes that the public sector has not adopted information technology with uniform success (NRC, 2000). The report notes that most problems in achieving payoffs from investments in information technology have arisen from inadequate planning and implementation--including failures to provide adequate training for workers, to pay sufficient attention to customer/client needs, and to rethink how institutions should operate.

Clearly, technological innovation changes the way work is completed, often forcing workers to reprioritize tasks, project deadlines and other schedules to handle the communications overload (Pitney Bowes Inc., 1998). The complexity of organizational adaptation to technology and information management systems is evident when technology is optimized without addressing other aspects of the organizational behavioral systems whether cultural, social or psychological. Employee's reasons for resisting technology are often based on their disconnection to the new initiatives, decreasing

self-confidence in their ability to learn new skills, assumptions of difficulty in adapting to new systems and fear of displacement. Decreases in productivity, employee turnover, low morale, turf battles or employee indecisiveness often characterizes employee resistance to the pace or degree of change.

As indicated in the following summary findings, the municipal survey respondents see attitudinal issues as significant barriers to technology implementation. These obstacles included, (1) employee resistance to the computerization of tasks (71.2%); (2) under-utilization of software, new systems or computerized operations (69.2%); (3) decreased employee productivity due to resistance (66.2); and (4) managerial/supervisory resistance to technology (56.0%).

Resistance can be based on employee limitations – barriers that represent their understanding of the new technologies, including concerns: workers age, culture, ways of working, social needs and educational levels. Additionally, there may be limitations embedded in the technology that even committed employees may be unable to resolve. Winslow and Bramer identify several types of resistance to technology launches in organizations including culture, age, socio-economic status, habit, education, and systems design familiarity. Each of these factors can provide insights into the ways in which systems design can address the needs of real workers rather than creating systems designed to address the needs of employee profiles.

Public sector managers who traditionally based their role in the organization on pay grade and job classification see their status often disregarded in the pursuit of a solution. New information alliances within organizations are based less on organizational charts and more across organizational boundaries – following the information, rather than job function or title. Trying to avoid the discomfort of change provides for rear guard action and fights as individuals and organizations seek to avoid obsolescence (Synder, 1996). Resistance to technological innovation may be reflective of the way in which computing is viewed, traditionally as an electronic version of secretarial duties. The cultural context of employee's lives frames the way one is oriented towards work – and technology is a part of that framework. In many public sector organizations, where often seniority is linked to time in grade, older employers may feel a greater trepidation of technology. The unfamiliarity of new technology coupled with the projected fear of fatal errors, resulting in disciplinary action or even job loss encourages the long and safe route over one that is short and risk filled. The more risk adverse employees are the more unwilling they are to sacrifice the long and safe over short and risk filled. Numerous stories are evident of employees who seek to avoid new

technologies in the workplace. Organizations install sophisticated scanning equipment only to discover employees downloading and printing out copies of materials, hidden in their desks or who duplicate electronic documentation systems, preferring paper trails to electronic files. Implementation problems also develop given the broad range of educational levels and skill levels of many workers, and the limited power of performance systems to overcome certain educational deficiencies. Lastly, systems design resistance is often a response of the designer's efforts to avoid centering on unique aspects of organizational and individual performance, assuming that one size fits all.

Technology represents change. Resistance to technology is not only resistance to innovation but also apprehension, anticipation and acceptance of change. The nature of organizational transformation is linked to the ability of its members to transition not only systems associated with the production of work and communication but also their conceptualization of the nature of the work they perform. This involves both the learning of new technologies and the unlearning of outdated and outmoded skills. The resistance expressed by employees can be traced to two specific issues: technologies' effect on employment and the impact of computing on the quality of work life. Examples of employee resistance to technology are widespread, giving evidence to the reluctance of employees to support change. Staff's placing little trust in automated systems, maintaining old paper trails or even creating new, parallel manual systems expresses mistrust of technology. Poor "buy-in" occurred recently in a local health and human service agency implementing new technology to enable scanning of applications for certain assistance programs. The system was envisioned to enable case managers to input data directly into client files, providing for instantaneous updating of information. City caseworkers, fearful of loosing information, maintained the original paper forms in hidden file drawers.

As organizations cope with employee acceptance of new technology, employees struggle with issues of job security. The replacement of people by machines, or job displacement based on office or process automation has been debated – are there more or less jobs after computing? While there is minimal evidence to suggest that displacement, or the reduction of employees based on automation of manual activities actually occurs, there is a strong sense among employees that the dark side of technology ultimately risks continued employment even with the benefits of possible job expansion or job creation. Computers can and do alter the nature of work life; by changing the nature of social interaction among employees and the nature of the job skills they possess and ultimately are awarded for performance.

New technologies often create uncertainty among employees who face the acquisition of new skills and increased comfort levels with overlapping work assignments, task responsibilities and duties associated with new professional roles. The ability to determine individual employee performance is altering, as new technologies in public sector organizations require re-examination of traditional civil service systems performance measures linked to specific tasks and outputs. Today, new technologies point to creating an environment where performance is linked to system functionality, point of delivery support systems and performance centered vision. Actual usability is at the center of the work performance debate: testing of new technology often occurs at the implementation rather than at the development stage placing employees at perceived risk. Funding limitations of government or other public sector technology projects places options such as usability labs or beta-testing new systems with actual users as unrealistic options for determining system acceptability. This lessens the organization's ability to keep employees informed about desirable features and ultimately how new systems will improve quality and ease of work performance (Caudron, 1997). There is often little thought to the nature of work change facing individual employees. Assumptions regarding the ability of all employees to learn technology at the same rate, failure to adjust individual workloads while employees learn new systems and believing that computers can solve core personnel issues including poor productivity or morale results in a mal-adaptation in the workplace leading "to increased mental workloads, distortion of time, loss of control, social isolation and employee disappointment" (Brod, 1994, p. 39).

Conclusions

This paper has examined technological innovation and the factors attributing to both success and obstacles to technology in municipal governments throughout the state of Maine. As the survey results indicate, computing in these public sector entities are embedded in key organizational processes. As more and more citizens expect higher levels of convenience and services from local government, communities are responding to these demands with electronic services.

However, the impact of technology is not just in the electronic delivery of community services but also in the social and organizational designs within these organizations. The introduction of any technology into the workplace must be accompanied by sensitivity to its impact on the real human beings that use it (Winslow and Bramer, 1998). The redesign of both business processes and information flow ideally incorporates both the technical system

design (process, workflow, and equipment) and the social system design (roles, structures, and relationships). Successful implementation is most likely when the people who do the work are involved in both the technical and social design aspects and where individual and structural changes are addressed. Additionally, value systems of those involved in organizational change are critical to building the support to sustain launching new technology. "Values, assumptions and beliefs cut two ways; they may offer access to new opportunities at the same time as they may constrain particular behaviors, organizational arrangements, and managerial styles" (Kolodny, Liu, Stymne and Denis, 1996).

Public organizations will undoubtedly continue to face pressures to increase productivity, improve the delivery of services to clients and do so under increasing financial pressures to contain costs. Technology does offer a means to bring about enhancements in productivity and efficiency, however; the strict "technological fix" does present important limitations (Chisholm, 1988). Often the promise has been less than hoped for (Dixon et al., 1994; Champy, 1995). As survey results indicate, these local governments are encountering barriers such as staffing, employee opposition, resource limitations and the lack of technology expertise. The enthusiasm and excitement generated during the formative stages of technology implementation often becomes elusive as organizations struggle to accommodate new work patterns, training limitations, vendor dependence and employee resistance to change. As local governments experience increases in technology expenditures and technical staffing, and greater demands for sophisticated applications, creative alternatives may provide relief. Municipalities, particularly those with limited resources should seek opportunities for the development of collective strategies such as consortiums or the creation of special purpose districts providing greater economies of scale for pilot projects and beta testing of electronic service delivery strategies. Successful efforts in transportation, emergency services and procurement provide proven models for collective strategies among municipalities seeking to address technological innovation.

Municipalities less committed to technology implementation, with lower levels of automation, relatively unsophisticated applications and the smallest potential for the routinization of computing experience the greatest stress and lower payoffs from computerization while institutions with a strong commitment to advanced technology, resources, staffing and utilization experience the least amount of stress associated with launching new technologies (Kraemer and King, 1986). Given the contingent and often

evolutionary nature of determining the successes of technology, outcomes associated with greater efficiency, effectiveness and responsiveness are molded not only by citizen responses, but also by the experiences of public managers and employees who implement it, their work settings and even the nature of individual work experiences as well.

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Notes

[1]The Maine Municipal Association is a nonprofit, non-partisan organization whose goal is to "provide a unified voice of Maine's municipalities to promote and strengthen local government" (MMA, 2001 http:www.memun.org).

* The Edmund S. Muskie School of Public Service at USM offers graduate programs in Community Planning and Development, Health Policy and Management, and Public Policy and Management.

Utilizing Technology to Revitalize And Modernize Pi Gamma Mu

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Pi Gamma Mu is a social-science honor society struggling to maintain its supply of faculty volunteers at the chapter level. The author argues that Pi Gamma Mu needs to provide rewards to faculty volunteers in order to preserve the connections between the honor society and the faculty members. In today's academic world, such rewards need to be consistent with demands for faculty members to publish and to engage in innovative teaching methods. The author proposes that Pi Gamma Mu encourage the development of on-line social-science "learning communities," so that faculty members may draw their students into these modern instruments of instruction, obtain credit for involvement in this innovation, and have opportunities to produce scholarly articles relating to this breakthrough in the Scholarship of Teaching.

Pi Gamma Mu is an honor society for the social sciences that was founded at Southwestern College in 1924. There are active chapters at 170 colleges and universities in the United States and at two universities in the Philippine Islands. Over 200,000 persons have been initiated (Johnston 1999, pp. 7, 9). Pi Gamma Mu's international constitution includes history, political science, sociology, anthropology, economics, international relations, criminal justice, social work, social psychology, social philosophy, history of education, and cultural geography in its definition of the social sciences.

This article examines the forces that are challenging Pi Gamma Mu's ability to keep and attract faculty officers for its chapters. The article continues by evaluating the usefulness of Pi Gamma Mu to colleges and universities and to the social-science community. Finally, the author proposes uses of technology that may modernize the honor society and create a mutually beneficial relationship between itself and its faculty constituency.

The Challenge of Keeping and Attracting Faculty Officers

The aspiration of keeping existing Pi Gamma Mu chapters and of creating new chapters is threatened by a shortage of faculty members who are willing to hold the offices of secretary-treasurer and faculty advisor of such

chapters. Pi Gamma Mu officials report that the variable that best explains or predicts the deactivation of a chapter is the resignation or retirement of the faculty sponsor: Obviously, this sponsor was the only or the "last" faculty member at that institution who was willing to invest his time and effort to maintaining the chapter.

Faculty sponsors, most of the time, seem to find student members to be of limited assistance in administering a Pi Gamma Mu chapter. When honor students receive recognition from honor societies, they appear to be thinking, "Oh, so *this* is what you get when you get good grades"—as if that must be the way it ought to be. The students enjoy the attention; on the other hand, they don't feel an obligation to generate the recognition and the attention themselves. This leaves the administrative work to the faculty officers, who, after five, 10, or 20 years on the job, burn out.

In searching for sources in the literature that might provide a theoretical framework for analyzing this problem, two collections of sources come to mind. One literary collection would consider faculty sponsors and potential faculty sponsors as *employees* who need to be compensated for doing the work associated with operating a Pi Gamma Mu chapter. Another literary collection would consider faculty sponsors and potential faculty sponsors as *volunteers*. The collection to be selected would depend on whether it is apparent that faculty sponsors are compensated for their efforts, or that their supervisors disregard their efforts on behalf of Pi Gamma Mu in determining how they are to be rewarded.

If faculty sponsors are being rewarded as generously for their efforts on behalf of the Pi Gamma Mu chapter as they are for their other job responsibilities, then the question presumably becomes a behavioral one, given the freedom of choice that professors traditionally have in deciding for themselves how to allocate their time. Is it as enjoyable to be the faculty advisor of a Pi Gamma Mu chapter as it is to be a member of a university committee? Does a faculty member derive as much of a feeling of accomplishment by advising a Pi Gamma Mu chapter as she does by taking on the responsibility of organizing the university's commencement ceremony?

If this is the approach to be used, then the recruitment of faculty members to serve as faculty officers of Pi Gamma Mu chapters must depend on persuasive arguments, such as:

- "Is it fair to your best students to send them into competition in the work force *without* honor-society memberships, when their peers at other universities enter the competition *with* honor-society memberships?"

- "Is it healthy for your university to provide *no* (or few) recognition opportunities to your most capable students? Wouldn't this lack of recognition suppress the level of achievement of your most capable students—thus driving down the overall level of academic excellence among your student body?"

These arguments work occasionally, because professors are notoriously concerned about the well being of students. Not much of the modern pressures for research or anything else seems to have tampered substantially with professors' commitment to students at most colleges and universities. Not much having to do with pay seems to have the potential to disrupt professors' commitment to students, either. To some extent, attracting faculty members to serve as chapter officers of an honor society can be anchored to the concept of doing the right thing for their students. As-yet-unaffiliated faculty members need to be informed about (or "sold" on) the idea that their best students are being under-served if their academic performance is not fairly and publicly recognized and rewarded.

These would be the normal arguments to make in a simple, competitive environment, where comparable tasks compete for the favor of faculty members. And they may, in fact, have some persuasive value. In applying pay-as-motivation theories to professors, one must take into account that the training that professors undertook to qualify for their positions would ordinarily attract substantially more compensation, as it would if they went to work in industry. However, professors understand their careers to be a "calling" that is not based on the creation of tangible commodities in exchange for pay that reflects the value that they added to the goods produced. Rather, the professors seek the opportunity to enhance the lives of students; in this process, the professors have a substantial amount of discretion in how they will *organize* this process. In many or most cases, the professors also have a substantial amount of discretion in terms of *what* they will deliver (e.g., what they will teach, what topics to emphasize, what other topics to disregard, and how to evaluate student performance). "The professional job involves many choices of what to do as well as how to proceed. Generally, these must be made by the professional doing the work" (Sibson 1981, pp. 189-190). Bennett (1983, p. 45) comments, "Faculty members are notoriously individualistic. Each faculty member prefers to go his or her way—on course construction, text selection, student evaluation, and research projects. Each cites the demands of professional judgment in justification." Only on occasion will a department head feel the need to intervene, and this would involve his perception that departmental needs are not being fulfilled. ". . . [T]he

chairperson needs to create a context and set of circumstances in which the faculty see their own individual goals as achieved through meeting the departmental goals" (Bennett 1983, pp. 103-104).

On the other hand, there are conspicuous pressures on and signals sent to professors that, to a not-insignificant degree, circumscribe their freedom to manage their work lives as they please. For example, there is the process by which students evaluate their professors' performance in class. Frequently, these evaluations serve as inputs to the professors' annual-evaluation process, which may partly determine pay raises. As another example, there are expectations from colleagues as well as administrators that all faculty members will share in the necessary workload and in the creation of essential outputs. At many institutions, publishing research is included among these essential outputs; at research universities, this requirement is essentially inescapable. Expectations for service cause faculty members to be active on some number of committees. At the end of the day, only a few faculty members lament that they don't have enough productive activities in which to be involved.

In summary, faculty members are subject to a mixed-motive system of motivations and interests. While pay raises may have some impact on behavior, nevertheless faculty members have already shown a willingness to sacrifice pay potential and thus are obviously motivated by other factors. Peer pressure arguably is even more significant than pay in affecting faculty behavior.

It has become increasingly and painfully apparent to Pi Gamma Mu's international officers that service to Pi Gamma Mu is *not* competing on a level playing field with other options available to professors. The most conspicuous pressure on professors is the demand that they engage in research that results in presentations of papers at academic conferences and, better yet, in publications that they generate, such as scholarly books and journal articles. While a department head is apt to provide an indication of appreciation to a professor who advises the Pi Gamma Mu chapter, she will probably express considerably more approval to that professor—or some other professor—who publishes an article in the *Journal of Applied Psychology*. At a research university, it is entirely possible that a department head will admonish a faculty member to "stop wasting your time" with honor societies and concentrate on publications. For an as-yet-untenured professor, that instruction may come with the trump card, "or else," at the end.

I honestly doubt that there is *anything* that Pi Gamma Mu can do to overcome the "publish-or-else" atmosphere of many research universities.

In any event, there are more teaching colleges and hybrid research/teaching institutions than there are full-fledged research universities. Later in this paper, I will argue that Pi Gamma Mu can incorporate in its range of activities scholarly opportunities that may help to satisfy the job requirements of faculty members at the hybrid research/teaching universities and the teaching colleges and, thus, to make involvement in Pi Gamma Mu more "productive" for the professor while it generates benefits for honor students in the social sciences.

If this analysis proceeds, instead, on the assumption that faculty sponsors act as *volunteers*—i.e., they do not expect to be rewarded for their efforts with money—there is *still* a need to cause the activity to be rewarding from the faculty members' perspective. As Ilsley (1990, p. 8) explains:

> [Because volunteers' motives are not solely or even mostly altruistic, v]olunteerism . . . can exist without altruism. Purely altruistic individuals, if they did exist, might present a problem for volunteer group managers, because their motivation would not be susceptible to organizational control. Rather than pretending that volunteers do not seek rewards, the wise manager will concentrate on learning just what rewards they do seek.

This theoretical framework would require Pi Gamma Mu to understand that faculty sponsors need reinforcement. If institutions are not rewarding faculty sponsors with money, then *Pi Gamma Mu itself must provide rewards to preserve its relationship with its faculty constituency.*

The Usefulness of Pi Gamma Mu

If Pi Gamma Mu does not deliver benefits to colleges and universities, their faculties, and their students, further analysis of this problem would be of little value. Indeed, the international officers of Pi Gamma Mu sometimes hear arguments that this is the case. For example, one expression of skepticism says that the existence of discipline-specific honor societies—such as Alpha Kappa Delta (sociology), Phi Alpha Theta (history), and Pi Sigma Alpha (political science)—obviates the need for an interdisciplinary honor society for social science. If a student is being initiated into Psi Chi (psychology), the argument goes, then initiation into Pi Gamma Mu, too, is superfluous.

To each his own, of course, but this author's observations and experiences convince him that this argument is not only faulty but, furthermore, carries a now-obsolete preference for discipline-specific study rather than interdisciplinary learning and experience. The traditional curriculum, wherein a student takes a few courses in English literature, a few courses in

mathematics, a few courses in science, and one course after another in her major, is coming under withering attack. Here is one such challenge:

> Large, impersonal, bureaucratic, and fragmented, the American college is often an educational community only in theory. A variety of factors make the notion of meaningful educational community—the root of the word "college"—elusive in many of our institutions. . . . [In t]he idealized version of the campus of the past, . . . students and faculty shared a close and sustained fellowship, where day-to-day contacts reinforced previous classroom learning, . . . the curriculum was organized around common purposes, and the small scale of the institution promoted active learning, discussion, and individuality. . . .
>
> Many institutions today have little in common with the campus of the past. With huge enrollments, diverse students and faculty, competing missions, an increasing number of part-time faculty and students, and enormous specialization and fragmentation in the curriculum, many institutions are not experienced by students or faculty as an educational community at all. In many places, the institution can no longer even begin to assume responsibility for creating community (Gabelnick et al., 1990, pp. 9-10).

Interdisciplinary learning, as in the form of "learning communities," and curricula that focus on outcomes rather than the completion of prescribed courses are touted now as the far more productive mode of educating students for *their* benefit rather than educating them in order to gratify professors who find personal comfort in isolating themselves and their students from other disciplines.[1] As Swiss (1991, pp. 139-140) would put it, learning communities are more apt to focus on the *outputs* (also known as *outcomes*) of the university's effort rather than *inputs* or *processes* (also known as *throughputs*); the emphasis on outcomes is more likely to produce valuable results. In this context, Pi Gamma Mu has placed itself (or, less charitably, one might say, "has luckily stumbled") into a most propitious niche: an arena for interdisciplinary interaction and learning.

The other part of my argument against the preference for separating the disciplines is based on my experience with the model of cooperation among honor societies. At North Georgia College & State University (NGCSU), there are 16 honor societies affiliated with the Council of Honor Societies.[2] Most of the honor societies find themselves thriving with the cooperation.

The number of annual initiation banquets that are necessary has been slashed because of the council's Honor Societies' Initiation Banquet, which tends to reduce the workload of honor-society advisors by virtue of reducing the number of banquets that they must organize. Other cooperative efforts have strengthened the discipline-specific honor societies. Here is a case in point:

> NGCSU's Phi Alpha Theta chapter has always been an enthusiastic affiliate of the university's Council of Honor Societies and a good partner with the Pi Gamma Mu chapter. In the spring of 2001, that Phi Alpha Theta chapter found yet a new reason to appreciate its connection with Pi Gamma Mu and its affiliation with the council. The members of Phi Alpha Theta were working on a project to raise money to help build the World War II memorial site in Washington, D. C. Their goal was $1000, at which level the chapter would be recognized in the commemorative book that will be distributed when the memorial is dedicated. After months of exhausting fund raising, they had accumulated $625, and Dr. Georgia A. Mann, their faculty advisor, pleaded with them to concede the $1000 goal, which seemed beyond reach, and to comfort themselves that they had raised a substantial amount of money nonetheless. Dr. Mann asked me for a check in the amount of $625 (as executive director of the Council of Honor Societies, I hold funds for about seven of the affiliated honor societies in a checking account), and told me about the disappointment of the members. I suggested to her that she remember the purpose of the council, and ask for support from the other social-science honor societies. Pi Gamma Mu donated $150, the new chapter of Alpha Kappa Delta (sociology) donated $75, Alpha Phi Sigma (criminal justice) donated $75, and Pi Sigma Alpha (political science) donated $75—for a grand total of $1000! The members of Phi Alpha Theta were ecstatic—even if they had to share some of the credit!—and exulted about it publicly during their part of the program of the Honor Societies' Initiation Banquet.

This author argues vehemently that interdisciplinary honor societies and cooperation among honor societies are *preferable* forms of organization, compared to reliance on discipline-specific honor societies that must be self-reliant. Furthermore, the discipline-specific honor societies are arguably less capable of providing interdisciplinary-learning opportunities

than an interdisciplinary honor society like Pi Gamma Mu has the ability to promote.

Securing Pi Gamma Mu's Advantages Through the Use of Technology

One of the modern emphases in higher education involves the creation of "learning communities" of scholars on one or more university campuses. In the definition of Gabelnick et al. (1990, p. 5):

> Learning communities . . . purposefully restructure the curriculum to link together courses or course work so that students find greater coherence in what they are learning as well as increased intellectual interaction with faculty and fellow students. . . . [L]earning communities are also usually associated with collaborative and active approaches to learning, some form of team teaching, and interdisciplinary themes.

Because these learning communities tend to be interdisciplinary, participants with a diversity of academic backgrounds can trade ideas and compare a variety of critical-thinking approaches to problem solving.

Palloff and Pratt describe on-line learning communities—i.e., learning communities in which the interaction takes place aboard the Internet. In some of these learning communities, interaction is "synchronous"—i.e., the participants log in to the Web site at a prearranged time and discuss course content simultaneously. In most learning communities, interaction is "asynchronous"—i.e., the participants log in to the Web site at any time of the day, subject only to an eventual deadline, and post messages on a bulletin board-type of instrument for discussion (1999, p. 4).

The office of the chancellor of the University System of Georgia has devoted a great deal of resources to encourage the development of learning communities. In response to this emphasis, this author was a founding member of one of the first such learning communities at North Georgia College & State University. During the fall semester of 2000, two nursing professors and I brought our students into a learning community on the topic of "Health Care, Public Policy, and Ethics." My students were enrolled in an M.P.A. course in public policy analysis. The nursing students included those pursuing an associate's degree in nursing (Prof. Barbara Ann Tronsgard's students) and those pursuing a master's degree in nursing (Dr. Toni O. Barnett's students). We used WebCT on-line course software. The three courses otherwise took the same form that they would ordinarily have, but we added the learning-community component. This component operated

in two phases. During the first phase, I wrote and posted an essay entitled "Plagiarism."[3] During a two-week period, each student was required to read my essay and then to post a comment reacting to the essay. In the one-week period that immediately followed, each student was required to post a reply to the comment of a student in a different class. During the second phase, I wrote and posted an essay entitled, "Policy and Economics of the Health-Care System." The students were required to repeat the same process of posting comments and replying to each other. The three participating professors were delighted with the interaction among the nursing and political science students.

During the spring semester of 2001, the three professors agreed to bring their students into another learning community, but this time we brought two more professors and *their* students into the community. Both of them are members of Pi Gamma Mu, as I am, so that we now had three social-science professors along with the two nursing professors. This author was teaching an undergraduate/graduate course about the U. S. presidency. Dr. Thomas W. De Berry was teaching an undergraduate course in microeconomics. Dr. Rufus Larkin was teaching a graduate course in community counseling. The theme of this learning community was "Public-Policy Formulation of U. S. Government-Provided Health-Insurance Programs in the New Administration." The first essay, co-authored by Barnett and me, was entitled "Government-Provided Prescription-Drug Coverage." The second essay, co-authored by Tronsgard and me, was entitled "What Should the Bush Administration Do About Prescription-Drug Coverage? What Will It Do?" The interaction among the five groups of students was even more animated than that involving the fall-semester group. The interaction was reminiscent of the way in which college students interacted in a previous era; Gabelnick et al. (1990, p. 10) contrast college life of yesterday and today:

> As the number of full-time and residential students declines, community-creating activities such as late-night dorm sessions, hours spent lingering in a favorite coffee shop, or study break arguments in a library lounge also decline. For many students, the time and spaces for trying out new ideas in the company of peers no longer exists. The college experience is sandwiched between work and family, and the set of classes taken during any given term constitutes the only sustained contact students have with their colleges. *In this environment, the curriculum must now assume responsibilities for building community formerly*

assumed by the college as a whole (emphasis is preserved from the original).

During the vacation between the fall semester of 2000 and the spring semester of 2001, the two students who serve on Pi Gamma Mu's international board of trustees—Lisa Contreras and Nilda Pyronneau—initiated their own version of the learning community. They sent an E-mail message to numerous chapter advisors, and invited them to share opinions about the continuing mystery surrounding whether Vice President Al Gore or Texas Governor George W. Bush had won the 2000 presidential election. To the delight of Contreras and Pyronneau, a spirited discussion arose. A pattern was emerging: Pi Gamma Mu members in various departments at NGCSU, and Pi Gamma Mu members on a variety of campuses, were engaging in discussions about issues of social science! This was an innovation that Contreras, De Berry, Larkin, Pyronneau, and I do not want to be abandoned. We consider it very desirable (and, I will soon argue, it is *essential*) that these inter-institutional and interdepartmental initiatives continue.

Feedback from the students showed more enthusiasm than skepticism relative to the learning-community activity. For the professors—besides the satisfaction that we derived from watching our students learn with and from each other—the opportunities for scholarship, professional development, and service became apparent. One of the participating faculty members presented a paper co-authored by three of the faculty members (Barnett et al. 2001) at a professional conference. Three of the faculty members made a presentation at an assembly of the NGCSU faculty. Dr. Judy S. O'Neal, chairperson of the university's Curriculum and Technology Committee, praised the work of the faculty members as being groundbreaking.

Pi Gamma Mu has an opportunity to foster the development of these learning communities on individual campuses through its chapters, and then to interconnect chapters and campuses through inter-institutional learning communities. The honor society can and must, for the sake of its growth if not its very survival, lead this activity. By doing so, it has the potential to establish itself as a force that *strengthens* its faculty constituents rather than burdening them. It has the potential to establish itself as a trailblazing force in promoting scholarship in social science, rather than an entity that has a parasitic effect on university social-science divisions. In the language of marketing (see e.g., Kotler and Andreasen, 1996, pp. 40-41), Pi Gamma Mu has an opportunity to *deliver what its target market eagerly wants* rather than to plead with its target market to accept what it wants to provide. The potential energy can transform Pi Gamma Mu into an envied position of

leadership. What every learning community needs is "stable leadership and an administrative home." As Gabelnick et al. (1990, p. 41) state:

> If an administrator acts as the coordinator of the project and assumes responsibilities for logistics, the faculty can concentrate on curriculum development, instruction, and evaluation. Faculty are usually grateful for the assistance, but the downside of this largess is that the faculty may never develop the administrative savvy to manage the learning community. Still, an administrative point person who models a collaborative management style, alerts faculty to curricular quagmires, and smoothes administrative/staff networks is an invaluable resource. Obviously the best arrangement is a partnership of administrators and faculty who meet regularly to consider important learning community issues.

Pi Gamma Mu has the opportunity to occupy this position as the administrative home—the anchor—for innovative inter-institutional learning communities. This opportunity should not be lost.

Notes

1. Swiss (1991, p. 90) refers to "goal displacement," an approach to organizing work such that "an organization or its members begin to pursue goals other than the 'proper' organizational ones. . . . [T]he organization is being run as if the goal were the comfort of the employees rather than the benefit of the public."

2. Information about the council may be accessed at this URL address: http://168.30.200.21/~CHonorSo/index.htm . This site links to the Web sites of Pi Gamma Mu and numerous other honor societies.

3. This article may be accessed at this URL address: http://www.NGCSU.edu/academic/Bus_Gov/Ps_cj/bfriedman/plgrm.htm .

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